167

[illegible]

S.C.E.R.T., West Bengal
Library
Calcutta
25/3, B. C. Road

BUREAU OF EDNL. & PSYL. RESEARCH : :
LIBRARY

/c

READINGS IN EDUCATIONAL PSYCHOLOGY

EDITORS:

WILLIAM C. MORSE AND G. MAX WINGO

University of Michigan

D. B. TARAPOREVALA SONS & CO.
PRIVATE LIMITED
210, Dr. Dadabhai Naoroji Road, Bombay 1.

S.C.E.R.T., West Bengal
Date 17. 3. 72
Acc. No. 2346

370.15
MOR

Copyright © 1962 by Scott, Foresman and Company
Previous Copyright © 1957 by Scott, Foresman and Company
Under the title *"Studying Psychology and Teaching."*

Copyright 1970 in India, Pakistan, Burma and Ceylon
by D. B. Taraporevala Sons & Co. Private Ltd.
by arrangement with Scott, Foresman and Company.

Ednl. Psy Research

First Indian Reprint, 1970

This book has been published with the assistance of the Joint Indian-American Textbook Programme. It includes every word and illustration contained in the latest original higher priced edition of this title and is a complete and authentic copy thereof.

Sales Territory: (1) All countries of Asia (except Formosa, Japan and the Philippine Islands)
(2) All countries of Africa (except South Africa and British Commonwealth countries in Africa.)

This book can be exported from India only by the publishers, D. B. Taraporevala Sons & Co. Private Ltd. and this constitutes a condition of its initial sale and its subsequent sales. Infringement of this condition of sale will lead to civil and/or criminal legal action and prosecution.

Price in India only : Rs. 5·95

Printed and published by Russi J. Taraporevala for D. B. Taraporevala Sons & Co. Private Ltd., 210, Dr. Dadabhai Naoroji Road, Bombay 1, at their Electrographic Industries Division, Apte Industrial Estate, Worli, Bombay 18.

PREFACE

A textbook is a tool for teaching. It makes use of the outcomes of many research studies—compiling, synthesizing, and interpreting them for students within the framework of a general design. A well-planned text can do this job successfully, but it cannot go intensively into the details of individual psychological studies, nor can it convey the flavor of the primary sources. To get the feel for the ways in which hypotheses are made and tested, for the range in quality of research being done, for the conclusions that can and cannot be drawn from a set of data, and above all, for the tentativeness and incompleteness of our understanding, the student needs to go directly to the original sources.

Perhaps the academic ideal should be to send students to the library to seek out primary materials from the periodical literature and from books. But in these days of increasing enrollments and frequent shortage of funds to keep library acquisitions in proportion to increases in the student body, some other strategy is necessary. Moreover, we have found that students often need help in understanding what they find in original sources and in relating it to other things they are reading and discussing in class.

It is these considerations that have led to the present collection of READINGS IN EDUCATIONAL PSYCHOLOGY. For each of the 16 divisions in this book, we have selected four articles that document, expand, or illuminate specific points brought out in most educational psychology textbooks. Many of the selections are original reports of research. The others are articles of theoretical interest or applications of research findings to the practical problems of teachers.

We have not tried to select only the "best" articles, nor have we included only those with which we agree. In fact, some of the selections flatly contradict one another. We have chosen our Readings to meet the specific teaching purposes stated above, and we have felt that we would be serving the student best by giving him a sampling of the great variety and range, both in assumptions and methodology, that characterize educational research and writing today.

Whenever possible, we have reproduced materials in their entirety, including charts, diagrams, and tables. When we have had to make deletions to meet space requirements, we have indicated the omissions. At the end of each division, we have included some questions for study and discussion. Their purpose is to help students realize the significance and the implications of what they have read and relate this material to their text reading. To facilitate its use in this connection, we have prepared a correlation chart (pp. VI-VII) that indicates the relation of the various divisions of READINGS IN EDUCATIONAL PSYCHOLOGY to chapters in 11 of the contemporary introductory texts in educational psychology.

William C. Morse

G. Max Wingo

CONTENTS

1 YOU AS A TEACHER

The Relevancy of Educational Psychology by Arthur P. Coladarci 1
What Psychology Can We Feel Sure About? by Goodwin Watson 3
A Psychological Analysis of Vocational Choice: Teaching by Meryl E. Englander . . . 7
Teacher Behavior Liked and Disliked by Pupils by Carroll H. Leeds 12
Interpreting the selections 18

2 WHAT GOES ON IN SCHOOLS?

Life Adjustment Education for Every Youth by Office of Education 19
Adjustment Versus Education by Mortimer Smith 21
Why Is Education Obsolete? by Margaret Mead 25
An Anthropologist's View of Curriculum Change by Jules Henry 29
Interpreting the selections 36

3 HOW CHILDREN GROW AND DEVELOP

Youth and the Life Cycle by Erik H. Erikson 38
Emotional Development in Infancy by Rene Spitz 46
The Infantile Disorders of Hospitalism and Anaclitic Depression
by Samuel R. Pinneau 51
A Critique of Studies of Infant Isolation by L. Joseph Stone 58
Interpreting the selections 66

4 THE CHILD BEFORE SCHOOL

An Application to Education of the Needs Theory by Louis E. Raths 67
Backgrounds of Well-Adjusted Children by Grace Langdon and Irving Stout 70
The Emergence of Fun Morality by Martha Wolfenstein 76
The Changing American Child—A Speculative Analysis by Urie Bronfenbrenner . . . 83
Interpreting the selections 90

5 THE ELEMENTARY-SCHOOL CHILD

Summerhill: A Radical Approach to Child Rearing by Alexander S. Neill 91
Walden Two by B. F. Skinner 100
School Children's Problems as Related to Parental Factors by Jack Rouman 110
The Impact of Beginning First Grade by Celia B. Stendler and Norman Young . . . 115
Interpreting the selections 120

6 THE TEEN-AGER

Developmental Levels of Character: A Theory
by Robert F. Peck and Robert J. Havighurst 122
Psychological Health and Classroom Functioning: A Study of Dissatisfaction with School among Adolescents by Philip W. Jackson and Jacob W. Getzels 129
Our Troubles with Defiant Youth by Fritz Redl 135

Adolescence—Implications for the Teacher by Barry T. Jensen 140
Interpreting the selections 143

7 LEARNING EXPERIENCES

Teaching Machines by B. F. Skinner 144
More Opportunity for Learning—or Less? by Alexander Frazier 151
Self-Selection as a Principle of Curriculum and Method by Willard C. Olson 155
Teachers' Educational Beliefs Versus Their Classroom Practices by W. A. Oliver . . . 157
Interpreting the selections 161

8 GUIDELINES FOR LEARNING

The Functions of Teaching by Jerome S. Bruner 162
A Relativistic Definition of Stimulus-Response by Morris L. Bigge 169
Learning Theory in School Situations
by E. J. Swenson, G. L. Anderson, and C. L. Stacey 174
Hoping? Or Beginning to Know! by Stephen M. Corey 178
Interpreting the selections 182

9 WAYS OF LEARNING

The Psychology of Imagination by Frank Barron 183
Factors Affecting Creative Thinking in Children: An Interim Research Report
by E. Paul Torrance 188
How Children Form Mathematical Concepts by Jean Piaget 193
They Learn What They Live by Helen G. Trager and Marian R. Yarrow 198
Interpreting the selections 208

10 RETAINING AND USING LEARNING

Repetition and Learning by Irvin Rock 210
The Experimental Background of the Problems of Learning by Albert Rapp 215
The Problem of Transfer—Then and Now by William C. Trow 222
Teaching Scientific Theory to First Grade Pupils by Auto-Instructional Device
by Evan R. Keislar and John D. McNeil 226
Interpreting the selections 232

11 READINESS FOR LEARNING

The Psychology of Individual Differences by Philip E. Vernon 233
Current Trends and Practices in the Education of the Mentally Retarded
by Marion J. Erickson 236
The Function of Theory in Programs for the Gifted by Virgil S. Ward 242
The Reading Ability of High School Students by Warren A. Ketcham 247
Interpreting the selections 250

12 MOTIVATION FOR LEARNING

Expectancy for Eventual Success as a Factor in Problem Solving Behavior by Bonnie B. Tyler . . . 251
Future Time Perspective, Optimism, and Academic Achievement by John E. Teahan . 256
Pupil Motivation and Its Relationship to the Activity and Social Drives by Doyle M. Bortner . . . 258
Students, Groups, and Teaching Methods by Wilbert J. McKeachie . . . 263
Interpreting the selections . . . 268

13 LEARNING IN GROUPS

Opinions and Social Pressure by Solomon E. Asch . . . 269
Attitudes Toward In- and Out-Groups by Muzafer Sherif and Carolyn W. Sherif . . 273
Dimensions of Leadership Behavior in Classroom Discussion Groups by Claude J. Bartlett . . . 282
Teacher Competence and Pupil Change by Walter I. Ackerman . . . 286
Interpreting the selections . . . 295

14 LEARNING AND DISCIPLINE

Explorations in Classroom Management by J. S. Kounin, P. V. Gump, and J. J. Ryan . 296
Student Attitudes Toward Child Behavior Problems by Robert M. Porter . . . 304
Education and Psychotherapy by Percival M. Symonds . . . 308
The Stages of Maturation in Socialized Thinking and in the Ego Development of Two Groups of Children by Allen Bobroff . . . 315
Interpreting the selections . . . 324

15 SOCIAL-EMOTIONAL PROBLEMS IN THE CLASSROOM

A Process for Identifying Disturbed Children by Eli M. Bower . . . 325
Basic Approaches to Mental Health: The Human Relations Program at the State University of Iowa by Ralph H. Ojemann . . . 330
Group Discussion as Educational Process by Rudolf Dreikurs . . . 336
Group Life Space Interviewing in a Therapeutic Camp by William C. Morse and Edna R. Small . . . 343
Interpreting the selections . . . 352

16 EVALUATING LEARNING AND TEACHING

On the Assessment of Academic Achievement by Henry S. Dyer . . . 353
Pitfalls in the Measurement of Gains in Achievement by Paul B. Diederich . . . 359
How Invalid Are Marks Assigned by Teachers? by Robert S. Carter . . . 364
The Effect of Promotion Policy on Academic Achievement by G. T. Kowitz and C. M. Armstrong . . . 369
Interpreting the selections . . . 375

CORRELATION CHART

Readings in Educational Psychology	Cronbach *Educational Psychology* Harcourt, 1954	Frandsen *How Children Learn* McGraw-Hill, 1957	Klausmeier *Learning and Human Abilities* Harper, 1961	Lindgren *Educational Psychology in the Classroom* Wiley, 1956	McDonald *Educational Psychology* Wadsworth, 1960
1 You as a teacher	1, 8		4, 5	1	2, 3, 13
2 What goes on in schools?	2, 3	1	2		18
3 How children grow and develop	4, 5	3, 9		2, 3, 4	1, 11
4 The child before school	4, 5	3	3	4	
5 The elementary-school child	4, 5	3	3	4	
6 The teen-ager	4, 5, 19	3	3	4	
7 Learning experiences		1	14	11	
8 Guidelines for learning	3, 15	2, 4, 10	1	7, 8, 10	2
9 Ways of learning	10, 11	10	1, 6, 7, 9	9	5, 6
10 Retaining and using learning	9, 13	5, 7, 11	6, 12	7	6
11 Readiness for learning	4, 5, 6, 8	3, 12, 13	11, 13	16	11
12 Motivation for learning	14	8	11	9	4, 10
13 Learning in groups	11, 15	14	5, 9	5, 13	7, 8, 13, 17
14 Learning and discipline	15, 18	9	10	6, 12	
15 Social-emotional problems in the classroom	17, 18	9	10	6, 17	12
16 Evaluating learning and teaching	7, 16	12, 14	15, 16	14, 15	14, 15, 16

Morse and Wingo *Psychology and Teaching* Scott, Foresman, 1962	Mouly *Psychology for Effective Teaching* Holt, 1960	Pressey, Robinson, and Horrocks *Psychology in Education* Harper, 1959	Sorenson *Psychology in Education* McGraw-Hill, 1954	Stephens *Educational Psychology* Holt, 1956	Trow *Psychology in Teaching and Learning* Houghton, 1960
1	1	1, 19	8	1, 22	1, 2
2	18		22	15, 20	
3	3, 4, 5	2	4, 9	2, 17	
4	2, 3, 4, 5, 6	2, 5, 6	4, 5, 9, 11	4, 5, 7, 17	8
5	3, 4, 5, 6	2, 5, 6	4, 9, 11	4, 5, 7, 17	
6	3, 4, 5, 6	2, 5, 6, 14	4, 9, 11	4, 5, 7, 17	
7		11			11
8	8, 9	8	17	8, 19, 13	10, 11, 12
9	12	11		12	12
10	9, 11	9, 11	17, 19, 20	11, 14	12
11	15	7, 12, 14	12, 13, 14, 17	5	5, 6, 7, 10, 11, 12, 13
12	10	7, 11	18	10	10, 12, 13
13	6, 13	10	9	18	8, 13, 14
14	6, 17	5	7	17, 21	13
15	5, 16, 17	5, 14, 15, 16	6, 7	17, 20, 21	9
16	7, 14	3, 13	1, 2, 10	5, 6	6, 7

1 YOU AS A TEACHER

The Relevancy of Educational Psychology

Arthur P. Coladarci[1]

This first selection, by a leading educational psychologist, is a brief exposition of the function educational psychology can serve in a teacher-education sequence. The article offers an approach to both education and psychology and to the relationship between the two. The author suggests that there are no easy prescriptions or recipes for bringing about desired changes in the classroom and indicates why it is more exciting that we have none.

The relevancy of an applied area depends in part upon the definition of the process, institution, or event to which it is applied. The contribution that can be made by *educational* psychology is partially a function of the particular meaning invested in "education." This statement is not merely the usual innocuous preface to an extended discussion. Indeed, it is our major thesis. Too many teachers and administrators have thought of educational psychology as consisting only of an ordered catalogue of educational prescriptions, which, together with those provided by the other foundational fields in education, "tell" the teacher "how to teach" and the administrator "how to administer." The fallacy lies not only in the much too complimentary respect for the status of our knowledge in these areas but, more fundamentally, in the conception of education as a collection of successful recipes—the teacher or administrator is a person who has been armed with a bag-of-tricks in which he reaches for a decision regarding any given specific professional problem. Although this unfortunate orientation becomes an increasingly less frequent one, it still exists and may be partially attributable to the turn-of-the-century efforts to make education "scientific" by attempting to make it merely more *factual.*

If one, however, thinks of the nature of the educator's role in another way, educational psychology, and education generally, become more powerful, exciting and rigorous. The conception we have in mind can be described by beginning with a rather coarse but generally acceptable definition of the educator's role: to help the learner change his behavior in specified desirable directions. Although the definition is too ambiguous for detailed analysis, it serves to point out the two basic factors involved: a *process* ("behavior change") and a *criterion* ("specified desirable directions"). Suppose that the educator has clearly specified what he means by "desirable" behavior changes in the form of operationally stated educational goals. It appears, now, that the focal task for the teacher is to so interact with his pupils, and to so arrange the conditions and materials, that these pupils will change in the hoped-for ways. Put in these terms, the teacher's task can be seen as one of manipulating the learning situation in such a way that the *predicted* behavior changes actually do occur. If, at this point, the educational psychologist could say that we now know which manipulations will produce the desired changes, no problem would exist—we have only to apply the correct recipe. However, educational psychology cannot do this. Any particular combination of teacher-pupil-class-group-community-available materials, etc., is somewhat different from any other combination. There is no general prescription that can be considered to be clearly valid for particular cases. The teacher, then, *must be an active, continuous inquirer into the validity of his own procedures.* As Corey puts it:

---

[1] from **Educational Leadership, 1956, 13:489-492. Reprinted by permission of author and publisher.**

> Most of the study of what should be kept in the schools and what should go and what should be added must be done in hundreds of thousands of classrooms and thousands of American communities. The studies must be understood by those who may have to change the way they do things as a result of the studies. Our schools cannot keep up with the life they are supposed to sustain and improve unless teachers, pupils, supervisors, administrators, and school patrons continuously examine what they are doing. Singly and in groups, they must use their imagination creatively and constructively to identify the practices that must be changed to meet the needs and demands of modern life, courageously to try out those practices that give better promise, and methodically and systematically gather evidence to test their worth.[2]

At the risk of belaboring the point, let us put it in somewhat different form before considering the relevancy of educational psychology. The educator's decisions about methods, materials and curricular procedures should be thought of as *hypotheses* regarding the way in which the desired behavior changes can be brought about. These hypotheses must be *tested* continuously by inquiring into the degree to which the predicted behavior changes actually occurred. This view has been referred to elsewhere by the writer as "teaching behavior defined as the-testing-of-hypotheses behavior." The crucial element is *tentativeness;* ideas and decisions about method and curriculum are to be held hypothetically, continuously tested, and continuously revised if necessary.

CONTRIBUTION OF EDUCATIONAL PSYCHOLOGY

Given this conception of the educator's role, how can educational psychology be brought to bear on it in helpful ways? The contribution can be broken down into two related categories. First, educational psychology, as a body of information and an arena of research activity, can help in the generation of the educational hypotheses. Intelligent hypotheses are not chosen randomly nor are they found full-blown. An intelligent hypothesizer thinks along the lines of the following model: *"On the basis of the best information now available to me,* I hypothesize that this procedure will produce this result." To translate this into the context of education, we might say, for instance: *"On the basis of what I now know* about individual differences and the reading process, I hypothesize that this kind of grouping-for-reading will lead to the kind of pupil progress in reading that I would like to bring about."

Educational psychology, as a source of information, contributes to the "on-the-basis-of-what-I-now-know" portion of the statement. It helps provide information on which to base hypotheses for particular purposes and particular children. The teacher or administrator who takes this point seriously will understand that one cannot merely "take a course in educational psychology," but that he must constantly keep informed about those developments in this area that are most relevant to his particular educational responsibilities. The reader may also note that this conception of the interaction between educational psychology and the teacher means that every teacher can *contribute to* educational psychology in the process of testing his hypotheses.

---

[2] Stephen M. Corey, Action Research to Improve School Practices (New York: Teachers College, Columbia Univ., 1953), p. viii.

A second kind of contribution which educational psychology can make is that of helping teachers and administrators to acquire the attitudes and skills necessary to intelligent hypothesizing and the testing of hypotheses. Limitations of space preclude an explication of this. Generally, what is involved is learning such skills as how to interpret data intelligently, how to observe accurately, how to avoid common logical fallacies in making inferences, how to make adequate decisions regarding what data should be gathered, ways in which data can be gathered and recorded, etc.

Both of these contributions of educational psychology are shared by all the fields represented in this symposium. In the writer's view, this is the *raison d'être* of any field that purports to be "foundational" in professional education. Educational psychology, of course, has many additional and somewhat unique values for the educator. We have chosen to overlook those in this discussion since they are covered comprehensively . . . in published literature. . . .

It is appropriate, in this case, that the final comment should be cautionary as well as benedictory. The writer has stated his position as though there are no responsible competing alternatives to it. Any dogmatic flavor in the statement is more a consequence of brevity than of intent. Many persons will hold that such a conception of education as we have presented here is both impractical and not valuable. Our response would be that the orientation is at least practical in the sense that many, many educators have learned to behave as inquirers; the orientation appears to be valuable in that where one finds such an educator he usually finds him to be valued by his colleagues, ego-involved in his profession, and able to criticize his procedures rationally. In short, such educators do exist and they appear to make the profession a better one by their membership in it.

What Psychology Can We Feel Sure About?

Goodwin Watson[3]

There are many controversies among psychologists about learning and other aspects of behavior. Teachers are often confused by the various "schools of thought" in learning theory, emotional behavior, and social psychology. In this article an educational psychologist maintains that in spite of many differences among psychologists, there are a number of important psychological principles which are widely accepted and which teachers can use with confidence.

Educators and others who wish to apply psychology in their professional work have long been troubled by controversies among psychologists themselves. Behaviorism arose to challenge the introspective method; Thorndike's connectionism was controverted by Gestalt concepts; psychoanalysts talked an almost completely different language. It was natural for teachers to say, "Let's wait until the psychologists themselves straighten out their various systems!" It looked for a while as if one could support almost any educational practice by choosing which psychologist to cite.

---

[3] from **Teachers College Record,** Vol. 61, No. 5, Feb. 1960, pp. 253-257. Reprinted by permission of author and publisher. An expanded version of this article has been published under the title **What Psychology Can We Trust?** by the Bureau of Publications, Teachers College, Columbia Univ., 1961.

Gradually, however, a body of pretty firm facts has accumulated. While it remains true that research findings will be somewhat differently expressed and explained within different theoretical frameworks, the findings themselves are fairly solid.

A workshop of educators recently asked me to formulate for them some statements of what we really know today about children and learning. To my own surprise, the list of propositions with which few knowledgeable psychologists of any "school" would disagree, grew to fifty.

In no science are truths established beyond the possibility of revision. Einstein modified thinking about gravity, even though Newton's observations were essentially correct. Psychology is much younger and more malleable than physics. New facts are constantly accumulating in psychological research, and these will doubtless introduce some qualifications and modifications—conceivably even a basic contradiction. The educator who bases his program on these propositions, however, is entitled to feel that he is on solid psychological ground and not on shifting sands.

What follows is a listing of fifty propositions, important for education, upon which psychologists of all "schools" would consistently agree. These are presented in twelve classifications.

NATURE-NURTURE

1. Every trait in human behavior is a product of the interaction of heredity (as determined at conception by genes) and environmental influences. Some traits (preferences in food or clothing, for example) are easily influenced by nurture; others (height, rate of skeletal ossification) seem to be affected only by extreme differences in environment.

2. There are specific stages in individual development during which certain capacities for behavior appear. The manner in which these capacities are then utilized sets a pattern for later behavior which is highly resistant to change. If unutilized then, they are likely not to develop later (for example, visual perception, mother attachment, language pronunciation, sports skills, peer relations, independence from parents, heterosexuality).

3. The significance of the important biological transformations of pubescence (growth of primary sex organs, development of secondary sex characteristics, skeletal and muscular growth, glandular interaction) lies mainly in the *meaning* which cultural norms and personal history have given to these changes.

LEARNING PROCESS

4. Behaviors which are rewarded (reinforced) are more likely to recur.

5. Sheer repetition without indications of improvement or any kind of reinforcement is a poor way to attempt to learn.

6. Threat and punishment have variable and uncertain effects upon learning; they may make the punished response more likely or less likely to recur; they may set up avoidance tendencies which prevent further learning.

7. Reward (reinforcement), to be most effective in learning, must follow almost immediately after the desired behavior and be clearly connected with that behavior in the mind of the learner.

8. The type of reward (reinforcement) which has the greatest transfer value to other life-situations is the kind one gives oneself—the sense of satisfaction in achieving purposes.

9. Opportunity for fresh, novel, stimulating experience is a kind of reward which is quite effective in conditioning and learning.

10. The experience of learning by sudden insight into a previously confused or puzzling situation arises when: (*a*) there has been a sufficient background and preparation; (*b*) attention is given to the relationships operative in the whole situation; (*c*) the perceptual structure "frees" the key elements to be shifted into new patterns; (*d*) the task is meaningful and within the range of ability of the subject.

11. Learners progress in any area of learning only as far as they need to in order to achieve their purposes. Often they do only well enough to "get by"; with increased motivation they improve.

12. Forgetting proceeds rapidly at first—then more and more slowly; recall shortly after learning reduces the amount forgotten.

MATURATION: LIFE TASKS

13. The most rapid mental growth occurs during infancy and early childhood; the average child achieves about half of his total mental growth by the age of five.

14. Ability to learn increases with age up to adult years.

15. During the elementary school years (ages 6 to 12) most children enjoy energetic activity —running, chasing, jumping, shouting, and roughhouse. . . . Boys are generally more vigorous, active, rough, and noisy than girls.

16. Not until after eleven years of age do most children develop the sense of time which is required for historical perspective.

17. Readiness for any new learning is a complex product of interaction among physiological maturation, prerequisite learning, the pupil's sense of the importance of this lesson in his world, and his feeling about the teacher and the school situation.

INDIVIDUAL DIFFERENCES

18. No two children make the same response to any school situation. Differences of heredity, physical maturity, intelligence, motor skills, health, experiences with parents, siblings, playmates; consequent attitudes, motives, drives, tastes, fears—all these and more enter into production of each child's unique reaction. Children vary in their minds and personalities as much as in their appearance.

19. Pupils vary not only in their present performance but in their rate of growth and the "ceiling" which represents their potential level of achievement. Some "late bloomers" may eventually surpass pupils who seem far ahead of them in grade school.

20. Gains in intelligence test scores by children are positively related to aggressiveness, competitiveness, initiative, and strength of felt need to achieve.

21. Pupils grouped by ability on any one kind of test (age, size, IQ, reading, arithmetic, science, art, music, physical fitness, and so forth) will vary over a range of several grades in other abilities and traits.

LEVEL OF CHALLENGE

22. The most effective effort is put forth by children when they attempt tasks which fall in the "range of challenge"—not too easy and not too hard—where success seems quite possible but not certain.

23. According to some studies, many pupils experience so much criticism, failure, and discouragement in school that their self-confidence, level of aspiration, and sense of worth are damaged.

TEACHING METHOD

24. Children are more apt to throw themselves wholeheartedly into any project if they themselves have participated in the selection and planning of the enterprise.

25. Reaction to excessive direction by the teacher may be: (*a*) apathetic conformity; (*b*) defiance; (*c*) scape-goating; (*d*) escape from the whole affair.

26. Learning from reading is facilitated more by time spent recalling what has been read than by rereading.

27. Pupils *think* when they encounter an obstacle, difficulty, puzzle or challenge in a course of action which interests them. The process of thinking involves designing and testing plausible solutions for the problem as understood by the thinker.

28. The best way to help pupils form a general concept is to present the concept in numerous and varied specific situations, contrasting experiences with and without the desired concept, then to encourage precise formulations of the general idea and its application in situations different from those in which the concept was learned.

"DISCIPLINE" AND LEARNING

29. Over-strict discipline is associated with more conformity, anxiety, shyness and acquiescence in children; greater permissiveness is

associated with more initiative and creativity in children.

30. When children (or adults) experience too much frustration, their behavior ceases to be integrated, purposeful, and rational. Blindly they act out their rage or discouragement or withdrawal. The threshold of what is "too much" varies; it is lowered by previous failures.

GROUP RELATIONS

31. Pupils learn much from one another; those who have been together for years learn new material more easily from one of their own group than they do from strangers.

32. When groups act for a common goal there is better cooperation and more friendliness than when individuals in the group are engaged in competitive rivalry with one another.

33. At age six, spontaneous groups seldom exceed three or four children; play groups all through childhood are smaller than school classes.

34. Children learn that peer consensus is an important criterion; they are uncomfortable when they disagree with their peers, and especially when they find themselves in a minority of one against all the others.

35. Groups which feel some need (internal coherence or external pressure) to work together try to influence deviates toward the group norm. If there is no felt need to stay together, the deviate may be ignored and thus excluded.

36. Leadership qualities vary with the demands of the particular situation. A good leader for a football team may or may not be a good leader for a discussion group, a research project, or an overnight hike; leadership is not a general trait.

37. In most school classes, one to three pupils remain unchosen by their classmates for friendship, for parties, or for working committees. These "isolates" are usually also unpopular with teachers.

SUBJECT MATTER

38. No school subjects are markedly superior to others for "strengthening mental powers." General improvement as a result of study of any subject depends on instruction designed to build up generalizations about principles, concept formation, and improvements of techniques of study, thinking, and communication.

39. What is learned is most likely to be available for use if it is learned in a situation much like that in which it is to be used and immediately preceding the time when it is needed. Learning in childhood-forgetting-and relearning when needed is not an efficient procedure.

40. Television is the most frequently reported activity of elementary school pupils, occupying about the same number of hours per week as are given to school—far more than would voluntarily be given to school attendance.

ATTITUDES AND LEARNING

41. Children (and adults even more) tend to select groups, reading matter, TV shows, and other influences which agree with their own opinions; they break off contact with contradictory views.

42. Children remember new information which confirms their previous attitudes better than they remember new information which runs counter to their previous attitudes.

SOCIAL STRATIFICATION

43. Attitudes toward members of "outgroups" are usually acquired from members of one's "in-group."

44. Children who differ in race, nationality, religion, or social class background, but who play together on a footing of equal status and acceptance, usually come to like one another.

45. Children who are looked down upon (or looked up to) because of their family, school marks, social class, race, nationality, religion, or sex tend to adopt and to internalize this evaluation of themselves.

46. Two thirds of the elementary school children of America come from lower-class homes; the one third who come from the lower-lower class usually find school very uncongenial.

47. Children choose most of their "best friends" from homes of the same socioeconomic class as their own.

48. More girls than boys wish, from time to time, that they could change their sex.

later behav
change. If unutilized then, the
to develop later (for example, visual perception,

EVALUATION

49. If there is a discrepancy between the real *objectives* and the *tests* used to measure achievement, the latter become the main influence upon choice of subject matter and method.

50. The superiority of man over calculating machines is more evident in the formulation of questions than in the working out of answers.

A Psychological Analysis of Vocational Choice: Teaching

Meryl E. Englander[4]

One of the perennially fascinating questions about a person is why he chooses the lifework he does. Is it because of deep, long-term purposes or because of the social situation of the moment? How much of the motivation lies beneath the level of awareness? How big a part does chance play? This is no simple matter to understand. Dr. Englander has used several new techniques in exploring the dynamics involved in choosing teaching as a career. How many of the factors he mentions do you think have influenced your choice? Have there been others he does not mention?

There is a voluminous literature on analyses of the need for teachers and proposals for relieving the situation. Unfortunately, the proposals put into operation so far have not been too rewarding. The shortage continues and promises to be even more severe. A major unknown is how and why persons select or reject teaching as a vocation.

Various studies have been successful in detecting mean differences between groups who have selected or rejected teaching in such general factors as socio-economic background, size of home towns, and past experiences with teachers. Other studies have delineated certain factors which are thought to influence decisions regarding teaching as a vocation: counsel by friends, teachers, and parents; identification with an admired adult; past experiences; and particular occupational features such as security, prestige, salary, and working conditions. Although some persons who have chosen to teach indicated that these factors were important in their selection of teaching, others with similar exposure made alternative choices.

THEORETICAL FRAMEWORK

It would seem that the more dynamic determinants involved in the selection and rejection of teaching need to be investigated. This in turn requires the development of a theoretical structure which can be subjected to study. Several general theories which may be applicable are described in the literature. Of these, Super's notion that one's vocational choice is a means of implementing the self concept seems particularly [significant] in terms of teaching.

Super has proposed the following view of the process of vocational choice:

---

[4] from Journal of Counseling Psychology, Vol. 7, No. 4, 1960, pp. 257-264. Reprinted by permission of author and publisher.

> In choosing an occupation one is, in effect, choosing a means of implementing a self-concept. . . . The choice of an occupation is one of the points in life at which a young person is called upon to state rather explicitly his concept of himself, to say definitely, I am this or that type of person.[5]

With this self-understanding the individual then seeks out and explores various occupations which are perceived as allowing him to live a role commensurate with this self concept.

Although no specific research as yet directly validates this proposition it has empirical support from several independent sources. . . .

An exploratory study by Dillon[6] gives further support to Super's concept of vocational choice from a somewhat different frame of reference. She explored the following hypothesis: "The profession which an individual selects is one that, according to his concept of it and as he sees himself in it, seems to him to satisfy most adequately the needs that he feels the strongest pressure to fulfill." The psychological protocols of 25 persons who had selected teaching as a vocation showed a definite relationship between a subject's motivational pressure and his concept of himself as a teacher.

Two additional studies are relevant. Berg found in a study of 110 student nurses that those who voluntarily withdrew from training "had expected to manipulate various gleaming, complicated instruments while assisting in operations. Instead they rubbed patients' backs."[7] It might be assumed that these persons selected nursing as a vocation under the influence of particular perceptions of themselves as nurses. When reality differed from these perceptions, they changed vocations. . . .

Previously, studies of the selection and rejection of teaching have been based upon the assumption that there is a homogeneity of traits, interests, backgrounds, or desires among the persons selecting a given occupation. Accordingly, they have attempted to isolate and identify such elements. Data from these studies have not furnished adequate cues for a program for teacher recruitment.

The theoretical structure of self-psychology suggests a different approach. Each individual seeks situations or otherwise behaves in such a manner as to verify, preserve, and otherwise fortify his self concept. The choice of vocation is one of the situations in which the individual has an opportunity to maintain and enhance the self by selecting a vocation which is perceived as being consistent with the self concept.

RESEARCH DESIGN

The current study attempts to ascertain *whether or not there is a significant congruency between an individual's perception of himself and his perceptions of persons and situations in teaching.*

With such a complex problem, certain assumptions and limitations are necessary in the research design.

First, one's vocational choice is assumed to be a free decision without duress from such external factors as severely restricted employment opportunities.

Second, there are certainly individual differences with respect to tolerance for the discrepancy between the perceptions of the self in various roles which may affect vocational decisions. These differences are not taken into account.

Third, no provision is made in this study for a hierarchy of factors within the phenomenological field. For instance, all of the components of the perceived personal characteristics are given equal weight although it is highly probable that individuals value certain characteristics more than others.

The setting of this study is the selection or rejection of elementary teaching by women in their junior year of college. The study was limited with respect to the specific vocation to be examined, the sex of the subjects, and the degree of involvement inasmuch as each of these factors in itself seems to be a dynamic variable.

---

[5] D. E. Super, "A Theory of Vocational Development." American Psychologist, 1953, 8:185-190.

[6] Frances H. Dillon, "The Relationship Between Basic Motivation and Choice of Teaching as a Profession." Unpublished doctoral dissertation, Univ. of Chicago, 1949.

[7] I. A. Berg, "A Study of Success and Failure Among Student Nurses." Journal of Applied Psychology, 1947, 31:389-396.

A preliminary investigation in which college women were interviewed individually and in groups was undertaken for the purpose of identifying those factors which women perceive as being important to their occupational plans. Four particular factors were isolated, each suggesting an hypothesis for further study within the framework of self-psychology.

Factors involved in choice

Perception of Personal Characteristics. The importance of the individual's perception of certain personal characteristics became manifested in the interviews in terms of feelings of personal adequacy or inadequacy to meet the requirements as perceived for particular occupations. Subjects frequently mentioned this as a deterrent. An important postulate of Super's percept of vocational choice is that the individual sees himself as "this" or "that" type of person. It seems appropriate in view of these factors that perception of personal characteristics be a pertinent variable for investigation.

It is therefore predicted that prospective elementary teachers will tend to perceive the personal characteristics of elementary teachers as congruent with the personal characteristics of the self to a greater degree than will those persons who have selected vocations other than elementary teaching.

Perception of Specific Occupational Features. The subjects in the preliminary interviews frequently denoted an interest in particular occupations because of opportunities to satisfy certain desires. . . . Other vocations were rejected as not affording such opportunities. Ginzberg *et al.*, noted "clarification (of one's goals and values) is an essential part of his occupational decision-making, for he cannot make a choice without determining, at least preliminarily, what he wants to get out of work."[8] Thus, there is an indication that the goals and values of the individual are important in the choice of vocations.

It would seem likely that the more one sees the features of an occupation as embodying opportunity for the realization of one's goals, the more he will be attracted to that occupation. Therefore, it is predicted that prospective elementary teachers will tend to perceive the features of elementary teaching as congruent with the features desired in an occupation for herself to a greater degree than will those persons who have selected vocations other than elementary teaching.

Perceptions of Peer and Family Attitude. The subjects in the preliminary study frequently related their vocational plans to their perceptions of the attitudes and plans of their respective families and friends. It is generally accepted that the groups to which an individual belongs have a profound effect upon his beliefs and attitudes. Self-psychologists consistently include the perceptions of "others' attitudes and approval" in an individual's self concept.

In order to obtain a more thorough understanding of this influence, two levels should be examined: (a) family, which represents an arbitrary group with presumed deep emotional relationships; and (b) friends, which represents a peer group of relatively free choice with perhaps less emotional involvement. Accordingly the following prediction is made: Prospective elementary teachers will tend to perceive the attitudes of their (a) respective families and (b) respective friends as being more positive toward elementary teaching than will those persons who have selected vocations other than elementary teaching. . . .

PROCEDURES

As yet, there are few proven experimental procedures and instruments which can be readily employed for an investigation of the phenomenal field. Accordingly, measuring instruments had to be designed. A measure of the congruency between an individual's self concept and her perception of teaching in terms of the variable in question was necessary.

The *Q*-sort seemed most adaptable to this task. This requires the subject to make forced choices from a series of verbal descriptions of persons. The subject is asked to group these statements into a normal frequency distribution ranging from "most descriptive" to "least descriptive." By varying the instructions, the subject may be asked to give perceptions of any given person: for example, his self, his ideal-self, or his employer. The resulting checklist descriptions which he gives for any two of these persons may be compared and a statistical index derived to show the degree of congruency.

---

[8] E. Ginzberg, et al. Occupational Choice, An Approach to a General Theory (New York: Columbia Univ. Press, 1951), p. 222.

Personal descriptions were identified from self-referent statements in the aforementioned preliminary interviews and self-descriptive studies. These descriptions were converted into 80 discrete statements through which an individual might describe any given person by noting those statements which were "most descriptive" and "least descriptive" of that person. Such statements as: (a) She is sympathetic to the problems of others, (b) She is a listener rather than a talker, and (c) She is energetic-industrious, were used. The index of congruency between one's self and one's perception of elementary teachers was computed by subtracting the number of disagreements from the number of agreements between the resulting "most" and "least" descriptive checklists when the subjects had responded to the scale for self and elementary teachers respectively.

In a like manner scales were devised to identify the index of congruency for perceptions of occupational features and others' attitudes toward elementary teaching.

The coefficient of reliability was found to range from .77 to .86 for these scales by the test-retest technique with an interim of two months.

SUBJECTS

One hundred and twenty-six women participated in the study. The subjects were classified into three major divisions in terms of their acceptance of elementary teaching as a vocation. Group I, elementary majors, consisted of those persons with a stated interest in elementary teaching as manifested by their selection of elementary teaching as a major. Two different groups were considered as rejecting elementary teaching as a vocation. The first of these, Group II, other education majors, included persons who planned to be employed in educational positions other than elementary teaching. Group III, noneducation majors, included those persons who had selected majors out of the realm of education. Three levels of acceptance or rejection along a continuum are assumed.

An analysis of variance indicated that there were no statistical differences between the various groups of this study with respect to chronological age, socio-economic background, or college aptitude.

RESULTS

1. A statistical index was obtained for each subject of the congruency between her perception of her own personal characteristics and her perception of the personal characteristics exemplary of elementary teachers. . . .

The index means for elementary majors, other education majors, and noneducation majors were 16.9, 12.8, and 6.9 respectively.

Each of the respective groups was found to be statistically different from the others with respect to congruency of *perceptions of self and personal characteristics* of elementary teachers. Those persons who have selected elementary teaching as a vocation see themselves as possessing personal qualities characteristic of elementary teachers to a greater degree than do persons who have not chosen this [field].

2. The subjects were instructed to indicate via Q-sort the features which they felt were *desirable in a vocation* and the *availability* of various features in elementary teaching. A statistical index was obtained as an indication of the congruency between the features desired in a vocation and the perceived features of elementary teaching. . . .

The elementary majors, other education majors and noneducation majors had index means of 20.8, 17.5, and 6.5 respectively. These data did not indicate any significant difference between elementary majors and other education majors. However, elementary majors and other education majors were found to differ from noneducation majors at the 1 per cent level of confidence with respect to this variable. As a group, prospective elementary teachers and kindred workers perceive the elementary teaching situation as possessing features which are deemed desirable in a vocation for the self.

3. A measure of the subject's perception of her *family's attitude toward elementary teaching* was ascertained by having her respond to an attitude toward elementary teaching scale as she believed her family might. The index for each subject is the mean scale value of the items which she selected as representative of her family's attitude. A high index is indicative that the subject perceived her family as having a favorable attitude toward elementary teaching. . . .

The elementary majors, other education majors and noneducation majors had index means of 8.0, 7.9, and 7.2 respectively. These data did not indicate any significant difference between elementary majors and other education majors. Elementary majors and other education majors were found to differ from noneducation majors at the 5 per cent level of confidence with respect to this variable. Elementary majors and other education majors perceive their families as having more favorable attitudes toward elementary teaching than do noneducation majors.

An interesting point in reference to this variable is the case of two sisters who participated in the study. One of these women had elected elementary teaching as a vocation while the other planned to teach at the secondary level. With respect to personal characteristics, occupational features, and perception of friends' attitudes the indices were virtually the same for both of them. However, the index was 7.1 for the elementary major and 5.3 for the other education major for the respective perception of parents' and family's attitude toward elementary teaching. These perceptions were verified in personal interviews.

4. The measure of the *perceived friends' attitude* was obtained in the same manner as was the case of the families' attitude. . . .

The index means of the elementary majors, other education majors and noneducation majors was 8.2, 8.2 and 7.2 respectively. These data did not indicate any significant difference between elementary majors and other education majors. Elementary majors and other education majors were both found to differ from noneducation majors at the 5 per cent level of confidence. As a group the elementary majors and other education majors perceive their friends as having a more favorable attitude toward elementary teaching than do those persons who are majoring in curricula [other than] education.

SUMMARY

The study described herein explored certain psychological components which seemed to be dynamically related to the selection or rejection of teaching. The theoretical orientation of the study was suggested by Super. He proposed that individuals select a vocation which they perceive as a means of implementing their self concept. For purposes of this study the self concept was considered to operate within a phenomenal field which included the individual's perception of personal characteristics, occupational features, and the attitude of others. The task of the present study was to obtain a measure of the congruency between an individual's concept of the self in employment and her perception of elementary teaching for each of these factors.

Elementary majors were found to be significantly distinguished from the noneducation majors with respect to their perception of elementary teaching as a means of maintaining and enhancing the phenomenal self. The data indicated that the two groups were differentiated as follows:

1. Congruency with respect to perceived personal characteristics of the self and of elementary teachers, at the 1 per cent level of confidence.
2. Congruency with respect to occupational features as desired for the self and perceived in elementary teaching, at the 1 per cent level of confidence.
3. Perceived favorable attitudes of respective families toward elementary teaching, at the 5 per cent level of confidence.
4. Perceived favorable attitudes of respective friends toward elementary teaching, at the 5 per cent level of confidence.

An unanticipated finding was that, with the exception of congruency of personal characteristics, the elementary majors were not differentiated from other education majors. Perhaps the specific role to be assumed is dependent upon the appropriateness of one's more intimate personal characteristics whereas the other variables assist in narrowing the field down to broad vocational selections. On the other hand these findings may be attributed to the nature of the instruments which allowed the subjects from the respective groups to relate the teaching situations to their chosen field. While the scales were designated "elementary," they may well have been perceived as "teaching" by the other education majors.

The results of this study indicate that elementary majors do perceive elementary teaching as a means of perpetuating their respective self-image and attaining those things which are desired in a vocation. On the other hand, non-education majors perceive elementary teaching as a vocation quite different from that which is expected and desired for the self. This difference may constitute the basis for their differing vocational decisions. . . .

Teacher Behavior Liked and Disliked by Pupils

Carroll H. Leeds[9]

Traits and competencies of both liked and disliked teachers are drawn from this research based on children's views of their teachers. Some of the children's reasoning—and feelings—are both amusing and perceptive. The study should help you check on your own qualifications and decide what courses and other activities will be most helpful in your preparation for teaching.

Recent years have witnessed a growing and enlightened interest on the part of both educators and laymen in the all-around personality development of children. Forward-looking educators have for some time been stressing the idea that the *whole* child goes to school, not merely an intellectual one-fourth. Insightful parents are becoming increasingly cognizant of the development status of their children's social and emotional behavior.

Playing a significant part in the development of the child's personality are the personalities of those with whom he comes in contact. One would suppose that the close and extensive association experienced daily by teacher and pupil in the classroom would make the personality of the teacher a decisive influence in shaping the personality pattern of the child. Evidence supporting this supposition has become available in recent years.

Maladjusted teachers and teachers whose personality patterns are not conducive to pleasant and harmonious relations with children are actually detrimental to the optimum personal growth of their pupils. Inability to establish rapport with children leads to ineffective learning situations, disciplinary problems, and undesirable attitudes of both teachers and pupils.

It is with the attitudes of pupils toward teachers and teacher behavior that this paper primarily is concerned. Research seems to point toward a reciprocal relationship between the attitudes of a child and his adjustment status; that is, the child's attitudes represent both a determining factor in his adjustment and a resultant factor. If this is the case, the attitude of a pupil toward his teacher or teachers has a direct bearing on his adjustment status. An undesirable attitude toward the teacher might indicate, then, not only possible maladjustment of the pupil but *the distinct probability that this attitude is contributing further* toward his maladjustment.

---

[9] from Education, 1955, 75:29-37. Reprinted by permission of author and publisher.

Granting, then, the responsibility of the school for the child's personal and social development, the influential part played by the teacher in the developmental process, and the intimate relationship between children's attitudes and their adjustment, we are led to the inevitable conclusion that the attitudes and reactions of pupils toward their teachers warrant far greater consideration and study than are customarily allotted them. The rating of teachers by their pupils has been discussed rather extensively in the literature. There is a growing tendency to endorse this type of rating. Even though a child's attitudes may change with increased maturity, it would seem that his *present* attitude would be of primary concern to the educator rather than his *future* attitude. Furthermore, it would appear that the most significant factor in a pupil's attitude toward his teacher is the affective element of like or dislike. It may be true that the elementary school pupil is not prepared to rate a teacher's instructional ability, but certainly he is qualified to reveal his feelings toward the teacher as a person. It is this immediate attitudinal response that would seem basic to all teacher-pupil relationships, and it is with it that we are concerned in the present discussion.

THE STUDY

The purpose of this article is to present and discuss the reactions of some 1000 fourth-, fifth-, and sixth-grade pupils to certain aspects of teacher behavior. These reactions were obtained in the course of other investigations described elsewhere. Two hundred fourth-, fifth-, and sixth-grade public school teachers had been rated by their pupils by means of a 50-item questionnaire, devised by the writer, entitled *My Teacher*. The items were simple questions adapted to the mental maturity and experience of fourth-, fifth-, and sixth-grade children, that could be answered simply by underlining "Yes," "No," or "?". The content of the questions related to the teacher's disposition, her treatment of pupils, her teaching, her interest in children's activities, her status in the pupils' esteem, her sense of humor, and a number of other topics within the realm of teacher-pupil relationship.[10, 11] The following items are cited as examples:

4. Does this teacher scold the pupils a lot?
Yes No ?

38. Does this teacher give you a chance to ask questions?
Yes No ?

Space was provided on the questionnaire for the pupil to comment relative to: (1) Why I Like This Teacher (2) Why I Don't Like This Teacher.

The questionnaire was administered in person, by the writer, to 200 groups (100 in each 2 studies) of approximately twenty-five pupils each. No one was present during the rating other than the pupils and the writer. It was made clear to the pupils that no one except the writer would ever see the papers and that their grades or school standing would in no way be affected by the way they answered the questions. They were not to sign their names.

As a basis for discussion in the present article, an intensive study was made (for both the 1946 and the 1951 data) of pupil reaction to the ten teachers at the upper end of the distribution of pupils' ratings and the ten teachers at the lower end. Table 1 indicates, for each item in the *My Teacher* questionnaire,[12] the relative frequency (in terms of per cent) with which pupils reacted unfavorably toward the ten teachers at each extreme of the distribution of pupils' ratings. Results are presented for both

---

[10] Actually two separate but identical investigations had been conducted involving 100 teachers in each. These studies were made in 1946 and 1951, respectively, in Pennsylvania and South Carolina.

[11] The reliability of the questionnaire was .94 (split-half technique).

[12] Items 1 and 2 were not included in the scoring as they were not concerned directly with teacher behavior. The remaining items are not reproduced exactly, but their content is represented by ideas phrased in terms of undesirable teacher behavior.

TABLE 1 Frequency of Pupil Reaction Toward Undesirable Behavior of the Ten Teachers Taken from Each End of the Distribution of Pupils' Ratings (1946 and 1951 Studies)

Item number	Undesirable teacher behavior	Percentage of pupil reaction to upper 10 teachers		Percentage of pupil reaction to lower 10 teachers	
		1946 (N :281)	1951 (N :257)	1946 (N :265)	1951 (N :261)
3	Failure to praise	10	5	49	15
4	Scolds pupils a lot	4	7	71	50
5	Usually cross	3	4	59	20
6	Doesn't explain school work	0	2	19	6
7	Doesn't speak to pupil on street	0	1	20	6
8	Unable to keep order	5	7	30	48
9	Does not make school work interesting	1	1	39	21
10	Often "bossy"	2	4	58	32
11	Difficult to approach with problems	5	6	56	26
12	Forces ideas on pupils	12	8	44	24
13	Not usually kind to pupil	2	0	37	10
14	Does not keep promises	2	0	25	19
15	Does not participate in children's games	9	17	64	64
16	Thinks she is always right and pupil wrong	7	2	51	31
17	Has "pets" among the children	27	16	54	57
18	Scolds a pupil in front of other pupils	44	23	91	80
19	Difficult to please	7	4	64	33
20	Talks too much	5	3	63	40
21	Easily annoyed or bothered	17	11	70	61
22	Unfair with pupils	3	2	39	18
23	Always "fussing at" the pupils	6	2	58	31
24	Failure to acknowledge pupil's hand	5	4	48	34
25	Detention during recess or after school	16	30	69	87
26	Makes fun of pupils	6	3	38	15
27	Disliked by most pupils	2	1	68	30
28	Doesn't laugh with pupils at amusing incidents	11	10	44	20
29	Unfair in grading	3	2	33	9
30	Talks too loudly	1	1	43	21
31	Does not give everyone a chance to recite	2	5	40	29
32	Failure to explain school work	1	0	28	9
33	Becomes angry at pupils' failure to understand	5	3	59	33
34	Unwilling to help with school work	2	2	38	15
35	Doesn't seem to like children	1	0	42	16
36	Punishes whole class for 1 or 2 offenders	12	8	71	41
37	Scolds pupils for mistakes	4	2	55	22
38	Does not give opportunity for questions	0	3	34	21
39	Lowers grades for helping others	19	20	57	20
40	Will not permit making up work failed	13	9	54	18
41	Often becomes angry with pupils	7	4	74	61
42	Pupil afraid to ask for help	6	4	42	20
43	Assigns "lots" of homework	5	8	54	55
44	Punishes in front of other pupils	20	14	86	61
45	Unwilling to give extra help	1	2	31	10
46	Does not see things as children do	3	5	52	37
47	Uninterested in pupil's activities outside of school	33	9	63	39
48	Does not explain lessons clearly	1	1	31	11
49	Disliked by individual pupil	1	0	53	28
50	Disliked by other pupils	1	1	58	20
	Total average per item	7.3	5.7	50.5	29.5

the 1946 and the 1951 studies. The data in Table 1 are interpreted as follows:

For Item 3, in the 1946 study, 10 per cent of the 281 pupils who rated the upper ten teachers, indicated that the teacher being rated failed to praise them "for doing good work;" whereas 49 per cent of the 265 pupils rating the lower ten teachers made the same indication. In the 1951 study, 5 per cent of the 257 pupils rating the upper ten teachers are contrasted, in like manner, with 15 per cent rating the lower ten teachers. Data for the other items are interpreted in the same way.

DISCUSSION OF FINDINGS

Table 1 indicates several points of both importance and interest:

1. The proportion of undesirable reactions is considerably and consistently larger toward the lower ten teachers (only exception in Item 39 with the 1951 data). For the majority of items, the percentage of figures relating to this inferior group are five to ten times as large as those relating to the superior group. In several instances, particularly in the 1946 study, the figure is twenty to forty times as large. In the earlier study, the total average percentage response per item is 7.3 for the superior group and 50.5 for the inferior group. These figures are 5.7 and 29.5 respectively, in the 1951 study.

2. It is of interest that the pupils in the South Carolina study (1951) are less critical of their teachers than those in the Pennsylvania investigation (1946). Particularly is this true of the lower ten teachers. The studies do not indicate the causal factors responsible for this difference. Of interest are three items (Items 8, 25, and 43) which prove an exception to this generalization, and indicate a more unfavorable attitude on the part of the South Carolina (1951) pupils: "unable to keep order," "detention during recess or after school," and "assigns 'lots' of homework." The differences are not great, but they are consistent with both superior and inferior teachers. Actually of greater import than the differences between the 1946 and the 1951 studies is their relatively close agreement.

3. Among those descriptive behavior traits which pupils mention as characterizing the teachers most disliked and which also seem to differentiate most noticeably the superior and inferior teachers are the following: "scolds pupils a lot;" "usually cross;" "often bossy;" "talks too much;" "always 'fussing at' the pupils;" "becomes angry at pupils' failure to understand;" "assigns 'lots' of homework;" "often becomes angry with pupils." It is of interest to note that practically all of these traits relate to the personality and disposition of the teacher and to the resulting affective and human relationships between teacher and pupil. It is probably true that a pupil's liking or disliking a teacher (see Items 27, 49, 50) is intimately related to, if not determined by, factors that are essentially affective, personal, and human. Such findings are in general agreement with the results of previous studies concerning why teachers are liked or disliked by pupils.

4. Of interest are those items in Table 1 with a relatively high percentage of response with reference to the "superior" teachers. This is especially true of Items 17, 18, 25, 44, and 47. Although in no case as high as 50 per cent, a relatively large proportion of the pupils indicate that even the "superior" teachers "have 'pets' among the children," "scold a pupil in front of other pupils," "detain pupils during recess or after school," "punish in front of other pupils," and are "uninterested in pupil's activities outside of school." These same items also show high percentages of response with reference to the lower ten teachers.

Partiality or favoritism shown by teachers toward certain pupils has always been a source of resentment for most children. For the teacher it may represent a possible outlet for feelings of insecurity.

Whether verbal or corporeal, punishment of a pupil in the presence of his classmates is resented and dreaded by children. Apparently even our better teachers are too often guilty of this practice, especially in verbal form.

Detaining a pupil during recess or after school would seem to be at least a questionable practice when one considers the reaction of the child.

A rather common weakness among teachers is an apparent lack of interest in what their pupils do outside of the school environment. In the 1946 study as many as one-third of the pupils indicated that teachers of the "superior" group were guilty of this lack of interest. It is quite possible, however, that this item was interpreted by some pupils to refer to the trait of keeping one's "nose out of other people's business."

If space permitted, much could be written concerning the responses to the remaining items in the questionnaire. Careful study of the accompanying Table should cause any individual teacher to pause in her work and ask herself the question: "Am I treating these young human lives as I would like to be treated if I were in their position?"

Comments written by pupils as to why they liked or did not like certain teachers reveal in startling fashion underlying attitudes which would seem of extreme importance. Because of this significance a number of these comments are presented:

Reasons for liking teacher:

"Because she is always friendly to the pupils."

"She is very patient and kind."

"I like this teacher because she is kind and not a boss."

"I like her because she is interested in my hobby which is building airplanes, boats, and other models."

"She considers herself one of us."

"Because she is helpful. I can take problems to her. She understands. She is pretty (that helps out a lot)."

"Because when I came to this school she was kind to me."

"Because when I ask her questions she gives me a chance to tell her."

"I like my teacher because she is interested in children."

"She tries to be very understanding. I think she is grand to put up with us."

"She is kind and not like most other teachers."

"Because she keeps her promises and takes us on trips and lets us ask questions without getting mad at us."

"She is kind and helpful and explains things carefully and listens to what you say."

"I like this teacher because she is fair and I feel free to ask her anything."

"She isn't cranky. She doesn't get angry when you don't get everything right."

"Because she'll stop and help anybody who needs help when she has important work to do."

"Because she is helpful and understanding in my work. And she is like a mother to all the children."

"Because she lets you laugh when something is funny and she has fun with children."

"I like this teacher because she's easy to get along with and I'm always at ease when I'm in her room."

"I like this teacher because she does not get angry. She does not embarrass us in front of the class."

"I like her for she is very nice, talks low, not too low, and she explains your lessons clearly."

"Because she likes all the children and not one or two."

"She goes skating like boys and girls and likes basketball and laughs when we do."

"Because she is humorous and laughs with the class and it makes school more fun."

Reasons for disliking teacher:

"Because when you ask her a question she will scream at you and tell you to sit down."

"She gets mad too easy."

"Because she fusses too much."

"Because she blames me for things I don't do and she hates me."

"I don't like her because she tries to boss everyone and she talks too much. And I wish she would shut up."

"Well the way I feel about it she gets too mean over just a little thing."

"She looks like a witch."

"I don't like this teacher because she hates me and I don't get to have part in most things."

"Because she does not keep her temper very good."

"She likes other pupils better."

"She has too many pets."

"When I first came to this school she called on me all the time but now I can sit and wave my hand for hours and she won't pay any attention to me. She embarrasses me in front of other pupils."

"Because she doesn't make jokes out of anything."

"Because sometimes she promises me I can do something and when I get ready to do it she says she never promised me."

"Because she yells too much."

"She is unfair with the pupils."

"Because she is mean to all of us when only one pupil is to blame for it."

"She just tells you what to do and doesn't explain the work."

"She seems to be always cranky."

"Because she is always picking on certain children."

"She thinks she is too smart. And she is too bossy. I hate her."

"When election time was here she took a badge off a pupil because she voted for Dewey."

"She's mean, crabby, cross. That's why I hate her."

"I don't like her sometimes because she scolds me when I miss a word."

"She always gets the paddle out and hollers for nothing."

"If she would be a little nicer I would do my work better."

"I just came to this school and she don't like me so I don't like her. If she would explain better I'd learn."

"Because she is always griping about something."

"Because she is always scolding us and telling us to keep quiet. She is really mean."

"Because she's cross when other teachers are around."

"Because she always keeps me in when I have to play basketball."

"One day she hit me across the back about fifteen times."

"She is MEAN."

"She puts chewing gum on our nose."

"She is too bossy and doesn't care for children of our age."

"She is too mean and always scolds at us when we make a mistake."

"I am afraid of her. She hit - - - - - with a paddle and made his neck bleed. Blood was running down his neck."

"Because she hit me on my head."

"Because she does not go to our basketball games and does not take interest in sports."

"Because she hollers at you in front of the room."

"I have no reason otherwise than that she doesn't let me express my thoughts."

"She doesn't give every pupil a chance to ask questions."

The above comments certainly substantiate the view previously advanced that, in the elementary school classroom particularly, the simple emotional, personal, and human qualities are basic in teacher-pupil relationships. Children, as other humans, demand and appreciate friendliness, understanding, and simple courtesy in the treatment accorded them. Such thoughtfulness and consideration would seem to presuppose a teacher personality pattern characterized, principally, by a liking for children and interest in what they do, a disposition patient as well as kind, and a balanced outlook on life, involving such things as a sense of humor and a conscience not overburdened with rigorous perfectionism.

Assuming a liking for children, it would seem that basic to everything else is a kind and pleasant disposition. This might then imply certain other more specific characteristics. Conspicuous in the remarks of the pupils is a distaste for "bossiness" in teacher behavior. Isn't it just as human to resent being "bossed" as it is to always want to order others around? And who appreciates being reprimanded in the presence of others? Children are human!

Undoubtedly, many teachers in their behavior are "bossy," inconsiderate, ill-mannered, and lose their tempers easily because of an insufficient amount of patience. Working with children demands an undying patience!

Prominent also in pupil reaction to teacher behavior is an appreciation of a sense of humor. The teacher who can laugh at amusing situations, who can see things the way children do, and who does not take life too seriously would seem to have a philosophy of life in keeping with satisfying human relationships with young people. Closely associated with one's attitude toward life is one's reaction toward his own conscience. An overburdened conscience, especially when coupled with feelings of insecurity, is often manifested in meticulous attention to minor details and an overemphasis upon less important matters and processes. Such perfectionism . . . inevitably leads to "nagging," with a consequent animosity on the part of pupils.

SUMMARY

Underlying this study was the multiple assumption that the social and emotional development of the child is a responsibility of the school, that the teacher plays a principal role in this development, and that the attitudinal reaction of pupils toward the teacher and her classroom behavior is of great significance in pupil adjustment.

Ratings of teachers made by fourth-, fifth-, and sixth-grade pupils indicated that affective, personal, and human factors provided the basis for differentiating teachers well-liked by pupils from those greatly disliked.

To be appreciated and liked, teacher behavior must stem from a personality basically well-adjusted and characterized by a sincere liking for children, a kind and pleasant disposition, and a balanced outlook on life.

INTERPRETING THE SELECTIONS

Coladarci article

1. Coladarci defines teaching behavior as "testing-of-hypothesis" behavior. What does this mean? Give a specific example.

2. What is the thesis of this article? Do you agree or not? Why?

3. According to Coladarci, what is the most common misconception of teachers in regard to educational psychology, and what fallacies underlie it?

Watson article

1. Select the ten concepts that seem to have the most significance for the classroom teaching you expect to be doing. Explain what each implies for practice.

2. Do some of the statements startle you? Choose two that you feel might be most difficult to substantiate, and give evidence from your experience which might qualify each idea.

3. If item 20 is sound, what would a classroom teacher do to facilitate IQ changes?

4. One problem in getting indisputable statements is that they must be worded in quite general terms. Take an example and show both how it could be correct or in error depending upon the way certain terms were interpreted.

Englander article

1. The author presents teaching as an opportunity for goal fulfillment. Which of your goals would teaching fulfill?

2. Does your concept of the role of the teacher correspond with your concept of yourself as a person?

3. How do the attitudes of your family and friends compare with your attitudes toward teaching?

Leeds article

1. Liked teachers in this study are rated only on their use of *disliked* practices. What possible positive traits, indicated in the later descriptive comments, do not show up in the table?

2. Another study lists, in order of frequency mentioned, the following traits of liked teachers:

(Listing based on traits most often mentioned in 12,000 children's letters about "The Teacher Who Helped Me Most")[13]

cooperative, democratic attitude
kindliness and consideration of individual
patience
wide interests
personal appearance, pleasing manner
fairness and impartiality
sense of humor
good disposition and consistent behavior
interest in pupil's problems
flexibility
use of recognition and praise
unusual proficiency in teaching a particular subject

Taking the results of the Leeds and the Witty studies together, what generalizations can you make about (a) desirable traits for teachers and (b) studies to determine what traits children regard as important in teachers they like?

3. In this article, is the "well-liked" teacher equated with the "better" teacher? Is being liked by pupils a valid indicator of a good teacher? What other criteria are important?

---

[13] Paul Witty, "An Analysis of the Personality Traits of the Effective Teacher," Journal of Educational Research, May 1947, 40:662.

2

WHAT GOES ON IN SCHOOLS?

Life Adjustment Education for Every Youth

Office of Education[1]

Definitions of what education should be and the numerous curriculum plans by which schools attempt to reach these goals have caused a controversial "great debate" in society today. The life-adjustment approach is one philosophy of education. What is meant by the term? Should life adjustment as defined in this article be the aim of American education? Before attempting to answer this question, read also the second article in this chapter.

. . . The Commission defines Life Adjustment Education as that which better equips all American youth to live democratically with satisfaction to themselves and profit to society as home members, workers, and citizens.

It is concerned with ethical and moral living and with physical, mental, and emotional health.

It recognizes the importance of fundamental skills since citizens in a democracy must be able to compute, to read, to write, to listen, and to speak effectively. It emphasizes skills as tools for further achievements.

It is concerned with the development of wholesome recreational interests of both an individual and social nature.

It is concerned with the present problems of youth as well as with their preparation for future living.

It is for all American youth and offers them learning experiences appropriate to their capacities.

It recognizes the importance of personal satisfactions and achievement for each individual within the limits of his abilities.

It respects the dignity of work and recognizes the educational values of responsible work experience in the life of the community.

It provides both general and specialized education, but, even in the former, common goals are to be attained through differentiation both as to subject matter and experience.

It has many patterns. For a school, a class, or a pupil it is an individual matter. The same pattern should not be adopted in one community merely because it was effective in another. It must make sense in each community in terms of the goals which are set and the resources which are available.

It emphasizes deferred as well as immediate values. For each individual it keeps an open

---

[1] from U.S. Office of Education Bulletin 1951, No. 22, Reprint, 1953, pp. 9-13. Reprinted by permission.

road and stimulates the maximum achievement of which he is capable.

It recognizes that many events of importance happened a long time ago, but holds that the real significance of these events is in their bearing upon life of today.

It emphasizes active and creative achievements as well as adjustment to existing conditions; it places a high premium upon learning to make wise choices, since the very concept of American democracy demands the appropriate revising of aims and the means of attaining them.

It is education fashioned to achieve desired outcomes in terms of character and behavior. It is not education which follows convention for its own sake or holds any aspect of the school as an end in itself rather than a means to an end.

Above all, it recognizes the inherent dignity of the human personality. . . .

A RECOGNITION OF DIFFICULTIES IN THE WAY

It is recognized that there are many difficulties in the way of achieving appropriate education for each youth of high-school age. Often desirable teaching units require a knowledge and understanding of several subject-matter fields, and it is difficult for any teacher to be a specialist in more than one area on the high-school level.

Traditional subjects are logically organized, and they are the stock in trade of teachers already trained. It is difficult to turn aside from respectable content and to venture with materials which are scarce and often poorly organized.

Through the years the influence of the college has given prestige to traditional subjects and procedures. Sometimes this traditional influence has been planned. Often it has been inadvertent. The influence is felt wherever classical language is considered more respectable than the household arts or wherever a school, which by its smallness is limited to one curriculum, offers the college curriculum only because it has status. While this influence is a subtle and pervasive one and thus difficult to change, it should be stated that the recent activities of many college faculties indicate a sympathetic understanding of the secondary-school problem.

Effective teachers are enthusiastic about the subjects they teach, and they are greatly tempted to be more interested in securing greater enrollments for their subjects as they now exist than in adjusting subjects to meet the needs of boys and girls. This is not a particular indictment of classroom teachers; the same type of comment may be made of any group of specialists, such as welfare workers, health specialists, and educational administrators.

When school workers are properly equipped by study, experience and disposition, even with sufficient time for thinking and planning, it is a big task to outline units of work for pupils which aim directly at building better citizens, homemakers, and neighbors. It is a much bigger task actually to build such units of work and make them effective. Moreover, most teachers and administrators do not have sufficient time for thinking and planning. They are handicapped by heavy pupil loads, a lack of resources with which to work, and multitudinous extracurricular duties and community responsibilities.

A second type of difficulty exists in the unsystematized but persistent appraisal which the public makes of the schools. There are readily available criteria for judging the effectiveness of traditional courses. The school patrons and the public generally can easily determine whether or not students are being successfully prepared for college. Employers can judge readily the effectiveness of vocational departments in the high schools. It is not so simple to judge the effectiveness of schools in the more general areas of citizenship, family life, conservation, general occupational adjustment, consumer education, leisure time, or health. The total result is that there are enormous continuing pressures for teachers and principals to continue doing the things they do well even though these practices fail to meet the needs of many pupils. Traditional programs often do fail to meet needs because both the character of the school population and conditions of living have changed since the programs were established. . . .

BRIEF FOR THE PROGRAM

. . . American high schools do not attract and hold many boys and girls long enough to meet their life needs. . . . Over the country approximately 80 percent of youth enter the ninth grade; approximately 40 percent remain to be graduated from high schools. . . .

The school is one of the important institutions which exercise educational influence, and as such it must assume its full share of responsibility for the behavior of adults. Contemplation of current affairs in American life must convince even those who are most optimistic about the future that all possible means should be used to strengthen the Nation, both within and without. Particularly is strength needed in the areas with which life-adjustment education is concerned. There are needs for improving the health of our people and for conserving our natural resources. There are needs for strengthening the family and stabilizing our practices for ethical living. There are needs for defining our foreign policy and governing ourselves in a more responsible fashion. There are needs for placing and keeping our economic machinery in balance and for making more recreative our use of leisure time.

It is apparent that American adults are sorely tried in their efforts to solve the problems . . . of modern living. Upon those who have a faith that schools can and do make a contribution to intelligent adult behavior, there rests an obligation for improving the schools. . . .

S.C.E.R.T., West Bengal
Date 17. 3. 72
Acc. No. 2346

S.C.E.R.T., West Bengal
Library
Calcutta
25/3, B. C. Road

Adjustment Versus Education

Mortimer Smith[2]

370.15
MOR

Presenting a sharp contrast to the first excerpt, the author of the following article points out the flaws in the life-adjustment school of thought and proposes an entirely different concept of what education should be. He rests his case on a plea for an education that is truly liberalizing and humanizing—one which is built on ultimate values. Why does he maintain that these ends are not attainable through a life-adjustment approach? Have the life-adjustment proponents lost faith in the abilities of American youth, as this article asserts?

. . . Teachers in our schools who may never have read a word of John Dewey, or have found what they did read largely indigestible, are nonetheless influenced in their teaching and outlook by the principles of the philosophy of pragmatism with its somewhat barren conception of the nature of man, its emphasis on immediate experience, its unwillingness to accept any ultimate values, its preoccupation with means and reluctance to set up ends, and its faith, perhaps now somewhat shattered by the events of the twentieth century, that all our personal and

LIBRARY

---

[2] The following is a portion of an address given before the Phi Beta Kappa graduate association of Indianapolis on May 6, 1955, and later reprinted in **Vital Speeches of the Day**, September 1, 1955. Some of the material was used in the introduction to **The Public Schools in Crisis**, edited by Mortimer Smith and published by Henry Regnery Company, Chicago, 1956.

social problems can be resolved by recourse to the scientific method. These philosophical postulates, which have dominated the thinking of public schoolmen for many decades, need to be subjected to a thorough re-examination in the interests of restoring humane values in education. To discover the flaws in the structure we are going to have to start with an examination of the foundations.

Such an examination will lead us to a consideration of some of the practices of modern education which inevitably result from conscious or unconscious acceptance of the philosophical principles. Here the questions arise thick and fast. If we are to have no order of goods in education, if the essence of education, according to the Deweyean theory, is simply "vital energy seeking opportunity for effective exercise," how are we going to decide on any workable function for the schools, how are we going to avoid a scattered, miscellaneous, and essentially chaotic curriculum? While we may agree with President Griswold of Yale that the liberal arts, which *do* imply an order of goods in education, are no panacea, and are not for every student in the same form and in equal measure, can we not also agree with him when he says that any system of education is poorer without them and that any system, as is the case with ours, "in which they become confused with substitutes and lost in the shuffle" is not in good health?

If those who set the tone and direction of public education refuse to set up any standards or acknowledge any body of indispensable knowledge we may well ask what is going to happen to two classes of students: the intellectually adept from whom the future leadership of the nation will presumably be drawn, and the great mass who will make up the average citizenry. There are widespread current complaints that the elite who go on to college are being short-changed in the public schools but let us assume for the moment that they may be resilient enough to survive a corrupted high school education and concern ourselves with the great average for whom high school education is terminal. Are we to try to reach these students with the values of genuine liberal education or are we to assume that they are ineducable and that their voyage through high school must be charted in placid waters?

The United States Office of Education, through its advocacy of the currently popular movement of "life-adjustment," gives some indication of how professional educators intend to resolve this problem. An official bulletin of this office has informed us that "college preparation or training for skilled occupations is neither feasible nor appropriate" for 60 per cent of American youth! From this same bulletin we learn that a sort of gigantic program of social services must be devised for these backward ones in which the attempt will be made to adjust them to the stresses of society through a curriculum that will be concerned largely with such personal matters as how to be well groomed, what to talk about on a date, what to do with leisure time, and how to shop for the groceries. This is done in the name of democracy but one may well ask if it isn't a perverted sense of democracy which implies that second best is sufficient for the great average. Or have we reached the point of complete collapse of values, where there is no best and no second best, where the ideal is undifferentiated *doing* rather than reflective *being*?

"It is all very well," says President Grayson Kirk of Columbia, "to try to adjust young people to society, but it is far more important that they be given some vision of the nature, ends, and purposes of that society." Looking at public education today, can anyone doubt that in the minds of many educators this aim is considered almost antediluvian, at least for the great majority of students? But it is precisely here that our trouble lies, in refusing to acknowledge that while the interests and abilities of men vary they have common needs, among them the need for that vision of the nature and ends of man and society that will give us a sense of community. To the nurture and development of that vision a proper education has much to contribute.

It is easy enough to come by the knowledge of the mechanics of an automobile or the mechanics of sex or to learn good grooming or to develop what the educators call "salable skills," but shouldn't our high schools be aiming a little higher, especially when dealing with students who are not going on to further study? Shouldn't the average student, as well as the bright one, be given an education that will enable him to live in the world as an intelligent citizen, and shouldn't he be given an education that will provide him with some inner resources so that he can live with himself without being swept along by the currents of mass superstition and mass custom? In other words, in any genuine educational program in high school as well as in college, the liberal arts in some measure will play a prominent role. Every student, bright or average, needs knowledge of the physical and social sciences, needs to be able to communicate on the level of language and mathematics, should have his mind awakened to some of the best in art and literature, and, perhaps most important of all, he should gain some understanding of the totality of life through religious and philosophical study suitable to his age and ability.

Your modern educator points up the difficulties of such an educational program—but cannot dismiss its importance—by his glib argument that you can't do much for a cocky adolescent in a city vocational high school—a young hoodlum who packs a switch-blade knife and wouldn't hesitate to spit in the teacher's eye—by teaching him *To a Skylark*. Without holding any particular brief for a diet of Shelley, I would think it only a counsel of despair to say that the majority, or any sizable minority, of average intelligence can't be reached with the values of education, with some of the accumulated knowledge and wisdom of the race, but must be shoved into "attractive" courses devoid of any real educational meat so they will be kept off the labor market or the streets. If this is the true state of affairs, if any large proportion of young people are mental and emotional morons, we are in a pretty bad way indeed and might as well acknowledge that the teacher's chief role is to be that of amateur psychiatrist, social worker, and baby sitter. My own feeling is that we have tried long enough in education to relax the mind, with boredom on the part of the student as an inevitable result; perhaps we ought now to be trying to stretch the mind. We might discover that the end result of such stretching helps to accomplish one of the chief aims of good education, to increase the personal satisfaction and pleasure of the individual.

It goes without saying that the difficulties inherent in trying to reach the heterogeneous mass of students in our public schools with the values of genuine education are enormous. Getting an education is hard work, especially for the less facile student. The difficulties can only be met by teachers who are themselves the products of a broadening, humanizing, and liberalizing education, who feel strongly enough about the kind of training they received to want to transmit it to their students, and who possess the developed intelligence and ingenuity to devise the means of transmission. One of the constant, and I believe most valid, criticisms being made today about public education is that the theory of teacher-education which is in the ascendancy in this country, with its emphasis on methodology rather than content, on the *how* of things rather than the *what*, tends to exclude from the public schools the sort of teacher I have described. . . .

But I think something new has been added, something peculiar to the last twenty-five, and particularly the last ten years, . . . the contemporary emphasis on socialization with its accompanying belittling of man and exaltation of the group. I think this state of things has a large bearing on the depressing condition of education today.

For a long time now our society has been registering a determined and implicit denial of the wonderful statement of Jacques Maritain that "the group attains its goal only by serving man and by realizing that man has secrets which escape the group and a vocation which is not included in the group." We are suspicious of private man and his secrecies and have come to believe that he is important only as he functions in association. . . .

. . . Ours is an age in which the autonomous, nonconforming, and non-joining individualist is abjured and the frantic participator is admired. . . .

In business and industry the eccentric, the man with brilliant ideas but non-adjustable personality, is frowned upon. William Whyte, Jr., of *Fortune* magazine says that in the large corporation the "inner quality" of a man is deprecated; what is important is the team, being adaptable, getting along. The man with ideas, with vigor and imagination, is the screwball who needs to be watched to see that he doesn't interfere with the smooth functioning of the team. Whyte asked a number of young trainees in industrial research how they thought Steinmetz would fit in today. The answer: "I think we could straighten out his unfortunate characteristics." . . .

. . . I read a statement recently by a pioneer of modern education in which he tells us that a "revolutionary discovery" has been made, to wit, that the common principles of morality are dependent "upon membership in common enterprises and the shared concerns of daily living."

I think it is probably fair to say that much of modern educational philosophy is based on this premise, that there are no ultimate values in the light of which individual man can live but that morality is simply the workable arrangements emerging from group association. But this is not personal morality at all, it is social expediency. It is foolish to speak of "shared concerns" and "common enterprises" contributing to morality until we inquire as to the nature of these concerns and enterprises. The enterprises can be good, as in the case of a group of medical scientists working together to conquer disease; or it can be bad, as in the case of the Nazis working together to devise ways of exterminating the Jews. The shared enterprises mean nothing as far as morality is concerned until we inquire about the integrity and purpose and responsibility and decency of the individuals involved; and the goodness or badness of group action can only be determined by individual moral judgment. There is no more a "group morality" than there is a "group mind." . . .

. . . I've been a little toplofty here this evening about educators as a class but here is a wise, if rather unorthodox one, Harry G. Wheat of West Virginia University, who made some apt remarks about the function of the school at a meeting last year of the American Association of School Administrators. Dr. Wheat pointed out that traditionally we Americans have rested the edifice of education on four cornerposts: 1. *Reading, the Art of Language.* 2. *Methods of Exact Thinking*, beginning with arithmetic, the art of number thinking, and progressing into the studies of the formula in algebra and of the method of proof in geometry. 3. *Broad View of the World*, which involves the extension of experiences of the pupils through geography and history from the here and now to other times and other lands. 4. *Care of Individual Needs*, which includes a diversity of nonacademic offerings such as physical education, industrial arts, homemaking, club work, etc.

After listing these four cornerposts, Dr. Wheat said that our modern "life adjustors" seem unwilling to take American education as it is but wish to make it a program with a single support, namely, the fourth cornerpost of Individual Needs, and he says their reason for removing education from its solid footings in order to rest it on a single support is that they have lost faith in the capabilities of American children and youth, they have decided that millions of the voting citizens of tomorrow are unable to profit from American education as it has come to our care. Since the road of learning, he says, now appears especially difficult, our "life adjustors" seek to resolve the difficulty by abandoning the road.

I would say, then, that one of our imperative tasks is to get back on the road, to face the fact that some functions of the school are primary and some subsidiary. The other suggestion I would make about improvement of the schools fits in with the first and relates to what I have been saying about education being for persons rather than for the group. Those of us who are interested in education (and that ought to include all of us) must reiterate that we are not interested in having our children adjusted, we are not interested in giving them social attitudes that enable them to get along, to fit in complacently with the group. We are not interested in turning out docile robots with automatic responses to "the batteries of social stimuli." We are interested in producing educated human beings who can communicate with other human beings. Groups can't communicate but they can be manipulated; individual human beings can communicate with other individual human beings and if their education has taught them how to think independently and imaginatively they cannot be manipulated and they won't want to manipulate others. There are problems in this horrid world we are bequeathing to our children which may be insoluble but certainly they will never be solved by the merely adjusted; they will be solved, if at all, by intelligent, humane, and morally responsible individuals. . . .

Can we not say that there are two tests of a good education? One is what you do with it in the marketplace, what it contributes to your role as citizen, as a person living in a social world of other persons. Another test is what you do with it in your solitariness. . . . I think we want an education that is truly liberalizing, one that not only prepares us to live in the world but to live with ourselves.

Why Is Education Obsolete?

Margaret Mead[3]

Few of the many people who discuss the goals of education think to question the basic design of our educational system. There is a general assumption that the education of the young and immature is achieved by the transmission of the wisdom of the ages through the words of educators and the pages of textbooks. Is this conception tenable under conditions of modern life? Does our school system need a fundamental overhauling—not in its detail, but in its basic structure? In the following article, a distinguished anthropologist challenges the traditional concept of education as a "packaged product" tied with a diploma ribbon.

When we look realistically at the world in which we are living today and become aware of what the actual problems of learning are, our conception of education changes radically. Although the educational system remains basically unchanged, we are no longer dealing primarily with the *vertical* transmission of the tried and true by the old, mature, and experienced teacher to the young, immature, and inexperiened pupil. This was the system of education developed in a stable, slowly changing culture. In a world of rapid change, vertical transmission of knowledge alone no longer serves the purposes of education.

What is needed and what we are already moving toward is the inclusion of another whole dimension of learning: the *lateral* transmission, to every sentient member of society, of what has just been discovered, invented, created, manufactured, or marketed. This need for lateral transmission exists no less in the physics or genetics laboratory than it does on the assembly line with its working force of experienced and raw workmen. The man who teaches another individual the new mathematics or the use of a newly invented tool is not sharing knowledge he acquired years ago. He learned what was new yesterday, and his pupil must learn it today.

---

[3] from Harvard Business Review, Vol. 36, No. 6, Nov.-Dec. 1958, pp. 23-30. Reprinted by permission of the publisher.

The whole teaching-and-learning continuum, which once was tied in an orderly and productive way to the passing of generations and the growth of the child into a man—this whole process has exploded in our faces. Yet even as we try to catch hold of and patch up the pieces, we fail to recognize what has happened. . . .

We have moved into a period in which the break with the past provides an opportunity for creating a new framework for activity in almost every field—but in each field the fact that there has been a break must be rediscovered. In education there has been up to now no real recognition of the extent to which our present system is outmoded. . . .

Historians point sagely to the last two educational crises—the first of which ended with the establishment of the universal elementary school and the second with the establishment of the universal high school—and with remarkable logic and lack of imagination they predict that the present crisis will follow the same pattern. (And what is history for if not to tell us exactly how to make the same mistakes as in the past!) According to such present predictions, the crisis will last until 1970, when it will end with the establishment of universal college education, accessible in principle to all young Americans. . . .

But in the midst of the incessant discussion and the search for scapegoats to take the blame for what everyone admits is a parlous state, extraordinarily little attention is paid to any basic issues. Everyone simply wants more of what we already have: more children in more schools for more hours studying more of something. The scientists want more students to be taught more mathematics, while the liberal arts advocates want more of their subject matter included in the curriculum. The planners want more school buildings built, and the educators want more teachers trained who have studied more hours and who will get more pay. Meanwhile, the child labor committees want more inspection and more attention to migratory children, and the youth boards want more social workers and more special schools and more clinics provided. . . .

That we have as yet failed to recognize the new character of change is apparent in a thousand ways. Despite the fact that a subject taught to college freshmen may have altered basically by the time the same students are seniors, it is still said that colleges are able to give students "a good education"—finished, wrapped up, and sealed with a degree.

A student who is still in college can "go on" to a higher degree because he has not as yet "completed" his education, i.e., the lump of the known which he has decided to bite off. But a student who has once let a year go by after he is "out of school" does not "go *on*," but rather "goes *back*" to school. . . .

Consistent with these ideas and with our conception of what a student is, our educational institutions are places where we keep "children" for a shorter or longer period. The length of time depends in part on their intelligence and motivation and in part on their parents' incomes and the immediately recognized national needs for particular skills or types of training—and as long as they are there, we treat them as minors.

Once they have left, we regard them as in some sense finished, neither capable of nor in need of further "education," for we still believe that education should come all in one piece, or rather, in a series of connected pieces, each presented as a whole at the elementary school, the high school, and the college level. All other behaviors are aberrant. So we speak of "interrupted" education—that is, education which has been broken into by sickness, delinquency, or military service—and we attempt to find means of repairing this interruption. . . .

Thus we avoid facing the most vivid truth of the new age: *no one will live all his life in the world into which he was born, and no one will die in the world in which he worked in his maturity.*

For those who work on the growing edge of science, technology, or the arts, contemporary life changes at even shorter intervals. Often, only a few months may elapse before something which previously was easily taken for granted must be unlearned or transformed to fit the new state of knowledge or practice.

In this world, no one can "complete an education." The students we need are not just children who are learning to walk and talk and to read and write plus older students, conceived of as minors, who are either "going on" with or "going back" to specialized education. Rather, we need children *and* adolescents *and* young *and* mature *and* "senior" adults, each of whom is learning at the appropriate pace and with all the special advantages and disadvantages of experience peculiar to his own age. . . .

Each and every one of these is a learner, not of something old and tried—the alphabet or multiplication tables or Latin declensions or French irregular verbs or the rules of rhetoric or the binomial theorem, all the paraphernalia of learning which children with different levels of aspiration must acquire—but of new, hardly tried theories and methods: pattern analysis, general system theory, space lattices, cybernetics, and so on.

Learning of this kind must go on not only at special times and in special places, but all through production and consumption—from the technician who must handle a new machine to the factory supervisor who must introduce its use, the union representatives who must interpret it to the men, the foreman who must keep the men working, the salesman who must service a new device or find markets for it, the housewife who must understand how to care for a new material, the mother who must answer the questions of an observant four-year-old.

In this world the age of the teacher is no longer necessarily relevant. For instance, children teach grandparents how to manage TV, young expediters come into the factory along with the new equipment, and young men invent automatic programing for computers over which their seniors struggle because they, too, need it for their research.

This, then, is what we call the *lateral transmission* of knowledge. It is not an outpouring of knowledge from the "wise old teacher" into the minds of young pupils, as in vertical transmission. Rather, it is a sharing of knowledge by the informed with the uninformed, whatever their ages. The primary prerequisite is the desire to know.

Given this situation, which of the institutions that are concerned with the revision of our educational system is to take the initiative: the educational world, the government, the armed services, citizens' voluntary organizations, churches, or industry? Each has a stake in the outcome; each has power to influence what happens; each has its own peculiar strengths and weaknesses.

Industry, however, has the peculiar advantage of understanding the major evil from which our whole educational system is suffering—*obsolescence*. Modern ideas of obsolescence have come out of studies of industrial processes, and industrialists have made these ideas so much a part of their thinking that making allowance for the costs of obsolescence and supporting continuing research on problems of obsolescence are a normal part of their professional behavior. . . .

In these circumstances, would it not be most appropriate for industry to take the lead in highlighting the obsolescence of our present educational system? In the United States, in 1958, approximately 67% of the civilian labor force [were] engaged in some kind of work in industry. Of the advances which account for obsolescence, a very large proportion have come out of industry. But, at the same time, much of the thinking that is holding up a real revision of our school system is based on an outmoded public image of industry as a monstrous and wicked institution which, if not restrained, would permit little boys to be sent down into coal mines or to work in conditions in which their lungs would be filled with powdered silicon.

In fact, industry has already taken the lead—within its own walls—in developing a new type of education that includes all levels of competence and training and that freely faces the need for education at the senior levels of management. In their recent survey, Clark and Sloan have presented a masterful picture of the very real contribution that education within industry is making to educational change. The thinking that has gone into this contribution, however, has not yet become an articulate, leading part of our rethinking of the educational system as a whole. But if industry, as represented by individual leaders from management and labor in many parts of the country, would come forward with plans which dramatized our dilemma, such plans would be heard.

What might these plans be? First, in regard to work performed by young people, industry could say to all those who believe that children should be kept in school primarily so that they will not be on the streets or at work under bad conditions: "We will agree that young people need more supervision than older workers—that someone should know where they are each day, that their health should be protected and checked, and that they should be protected from organized attempts to deprave them. We will undertake to train and supervise the young people who *at this time* cannot gain anything by remaining in school."

But this would not be enough. This offer would need to be accompanied by a second one: "As soon as *any* worker—of any age, at any level—in our plant, office, or laboratory is ready to study again, we will facilitate his, or her, doing so."

This is, admittedly, a large order. But we cannot have one without the other. For as long as we continue to think that free and, when necessary, subsidized education is appropriate *only* when it is *preliminary* to work . . . , just so long as the guardians of character, of political literacy, and of our store of talent that comes from all classes and in many cases shows itself only very slowly will argue for—and will get—longer and longer years of compulsory education and . . . of free education.

Under these circumstances, the meaning of education and the purpose of schools—especially for young people between the ages of 14 and 20—will only become more confused. On the one hand, the education that is absolutely necessary for those who, at an early age, are ready to go on to become scientists, statesmen, philosophers, and poets will be hamstrung by the presence of those others who, at the same age, do not want schooling; and on the other hand, the lives and characters of the temporary nonlearners will be ruined, and they will be incapacitated as potential later learners.

What we need to do, instead, is to separate primary and secondary education—in an entirely new way:

> By *primary education* we would mean the stage of education in which all children are taught what they need to know in order to be fully human in the world in which they are growing up—including the basic skills of reading and writing and a basic knowledge of numbers, money, geography, transportation and communication, the law, and the nations of the world.
>
> By *secondary education* we would mean an education that is based on primary education and that can be obtained *in any amount and at any period* during the individual's whole lifetime.

By so doing, we could begin to deal effectively with the vast new demands that are being made on us. The high schools would be relieved of the nonlearners, among whom are found a large number of delinquents. But, more important, men and women, instead of preparing for a single career to which—for lack of any alternative—they must stick during their entire active lives, would realize that they might learn something else. The very knowledge that this was so would relieve much of the rigidity that now bedevils management. Women, after their children became older, could be educated for particular new tasks—instead of facing the rejection that today is related to fears about new learning that is acquired in middle age.

Whatever their age, those who were obtaining a secondary education at any level (high school, college, or even beyond) would be in school because they *wanted* to learn and *wanted* to be there—*then*. . . .

In an educational system of this kind we could give primary education and protection to actual children as well as protection and sensitive supervision to adolescents. We could back up to the hilt the potentiality of every human being—of [any] age—to learn at any level. . . .

The kind and amount of leadership that industry can best take in making individual plans for sending workers—*on pay*—to get more education, and the kind and amount of leadership that can best come from tax-supported activities is a problem that will have to be threshed out. In the United States, we usually depend upon private initiative to make the first experiments before tax-supported agencies pick up the check. So, too, we shall have to work out the problem of providing special work situations for adolescents and on this basis make our decisions as to whether tax-supported institutions—rather than individual industries—should become chiefly responsible for the employment of adolescents.

But we also need to recognize articulately that there are other routes to competence than the one route provided by the conventional school. Experimental cooperative-work plans in the public schools need to be supplemented by experiments in industry. Such a plan is the one being conceptualized by Pylon, in which the sons of successful parents, who are financially able to continue their studies but find nothing rewarding in school work, are given a chance to learn under meaningful, money-making conditions.

The right to obtain a secondary education when and where the individual could use it would include not only the right of access to existing conventional types of schools but also the right of access to types of work training not yet or only now being developed—new kinds of apprenticeship and also new kinds of work teams (such as the "Day Haul," which is helping to solve our seasonal labor needs).

In thinking about an effective educational system we should recognize that the adolescent's need and right to work is as great as (perhaps greater than) his immediate need and right to study. And we must recognize that the adult's need and right to study more is as great as (perhaps greater than) his need and right to hold the same job until he is 65 years old. . . .

Among the nations whose industrial capacities make them our competitors, the United States has a comparatively small total population. The more completely we are able to educate each individual man and woman, the greater will be our productive capacity. But we cannot accomplish the essential educational task merely by keeping children and young adults—whom we treat like children—in school longer. We can do it by creating an educational system in which all individuals will be assured of the secondary and higher education they want and can use any time throughout their lives.

An Anthropologist's View of Curriculum Change

Jules Henry[4]

A second anthropologist, successful perhaps more in spite of his school experiences than because of them, sees the present dilemma in American education as a conflict between contradictory life-styles. He looks at our comfortable, self-indulgent culture and wonders if and how we shall meet the crises that face us. What are the difficult choices that teachers, school boards, administrators, and parents must make? As you read this selection, keep in mind the world scene as a backdrop against which American education must now be seen.

I have been informed, especially by those who disagree with my opinions, that all social scientists should start their writing or speeches by telling what their biases are: whether as children they were happy or deprived; whether their daddies were authoritarian; whether they were breast or bottle fed, etc. One anthropologist even argued at a recent international convention that if an anthropologist was working in malaria country he should state what his temperature was when he made his observations. While I cannot report my temperature, I have no objection to telling you something of my life as a school boy in New York City.

---

[4] from Teachers College Record, Vol. 62, No. 7, Apr. 1961, pp. 541-549. Reprinted by permission of author and publisher. This article appeared originally in Science and Mathematics: Countdown for Elementary Schools, published in April 1960 by the Frontiers of Science Foundation of Oklahoma, Inc.

TEACHER: THE ENEMY

I remember that I entered the first grade in P. S. 10 at 116th Street and Seventh Avenue. I quickly became president of my class, to my great surprise, received a red ribbon as token thereof, and was addressed as "Mr. President" by my fellows. My glory did not last very long, however, for I was a restless child and therefore talked too much for a president. I remember, also, that one day we were asked to pick large cards with letters on them from the teacher's desk to spell a word. I was almost paralyzed with fright and confusion, but selected three letters at random. Although they turned out prophetically to spell w-a-r, I could not receive credit for that word because "we hadn't had it yet." My selection was an off-beat response that did not fit the syllabus. The teacher's decision seemed unreasonable to me, but I let it pass. My father, meanwhile, was eager to have me up-graded, and, without consulting me, prevailed on the school authorities to send me a whole year ahead of myself. I was by this time, however, about to declare war on all teachers, having come to look upon them as enemies. By the time I hit the fourth grade, I was often kept after school and made to write thousands of repetitions of meaningless sentences and words in order to "discipline" me.

The family had now moved to the Washington Heights section of New York, and I was enrolled in P. S. 186, where I continued my role of bad boy. I hated school but was always reading "beyond my age level." I loved Homer and Scott because they dealt with the clash of combat. In those days we had to sit upright in school on hard benches with our hands folded before us on the desk or clasped behind our backs. To me the role of the teacher seemed to be that of a persecutor of little boys. When I moved into high school, I had calmed down a bit, but my fundamental attitude toward teachers had not changed, and my primary aim was to thwart them.

In college there was no change until I encountered the great philosopher, Morris R. Cohen, whose intellectual brilliance was a transforming light, radiating through the corridors of the City College of New York. Perhaps what I liked best about him was his capacity for demolition—for destroying platitudes—and his refusal to jump on popular bandwagons. At that point things changed, for I recognized for the first time the meaning of intelligence and scholarship and the courageous search for truth.

From all this autobiographical material one can derive the following inferences:

1. That I was a difficult child and hence saw the teacher largely as a disciplinarian.
2. That I am probably still difficult as a man.
3. That when one talks of role conflict, one must remember that children have conflicts as well as teachers.
4. That I may carry over into my appraisal of schools today unresolved childish feelings about them.
5. That great intelligences, like that of Cohen, can compel the reorientation of young minds by their mere existence and presence and by their passion for truth.
6. That I may, therefore, over-emphasize the power of intelligence in the old to transform the young.

I have included this autobiographical note for the purpose of reminding us at the outset that we have always to deal with the particular child and his idiosyncracies.

ROLE CONFLICT IN TEACHING

If we turn now to the subject of role conflict and the new emphasis on mathematics and science in the elementary schools and ask what a role is, we discover that beneath this jargon term there lives a very simple idea: a role is what people do. On the other hand, the term role implies impersonation, also. Thus, when I say a man plays the role of father, I mean he washes dishes, helps take care of baby, does the shopping, earns the money for the family to live on, and loves his wife and children. I may also mean, however, that he impersonates a father but is really not one in the deeper sense of the term. But the latter meaning of role is not the usually intended one. A good father is a man who wants to be a father and enjoys being one, who finds pleasure in the role. A bad father might be one who, though deriving some pleasure from fatherhood, prefers to be something else, too—perhaps a Don Juan. Such a man suffers from role conflict; he desires to do two mutually incompatible things. Thus, when we talk of role conflict in teaching we mean that the teacher is doing two or more mutually contradictory things.

We can readily understand that mutually incompatible tendencies can develop because a person is torn within himself, like the man who wants to be a father *and* a playboy; or like the teacher who wants to be sweet to her children *and* knock their heads together. These are personal, idiosyncratic characteristics, rooted in the individual's intimate background. On the other hand, there are mutually incompatible tendencies that harass entire populations and which have their foundations in the social life of an entire people and in the spirit of the time.

These also can create role conflict, and to comment about them, I must sketch my present impressions of the American dilemma and of some contrasts between ourselves and the Russians, the contemporary American's pretended conscience.

OCCUPATION AND FUN

Because of the needs of our economic institutions, because of low pay for many kinds of jobs, and because of status considerations, the average American does what he has to do by way of life-time occupation rather than what he would want to do. It is the old story of the business tycoon who really wanted to be a writer, of the doctor who wanted to be a painter, of the lathe-operator who had dreams of being a TV performer, or even of the corporation lawyer who wanted to be an anthropologist but figured, quite correctly, that as an anthropologist he'd have a car with a shorter wheel base than as a corporation lawyer. Thus, Mr. Average American enters the occupational structure doing what he has to do rather than what he has dreamed of doing, and he buries his life-time disappointment under a mountain of consumer goods, while his yearning toward self-realization becomes channeled into strivings for status. Fundamentally, then, the average American has immolated his Self under the high-rising standard of living, and pretends to his unconscious that his Self is satisfied with status striving.

On top of this are planted the exuberant flowers of fun, for fun is the American lotus, the food of forgetfulness; and what one strives to forget is both the buried dreams and the tensions of the status system. Where does American education fit here? The American system is torn between the old ideals of self-denial and achievement, and the new impulse toward permissiveness and toward ministering to the inner needs of the young child, who is really but the embodiment of our buried selves. There is no doubt that the latter ideal is dominant and will continue to be for a very long time.

This being the case, increased emphasis on the teaching of mathematics and science may get a hard time, both from the teachers and the children, and many teachers will be torn between the impulses to defeat a new system that tells them and the students to work hard and their impulses to make school a place for comfortable living, low frustration level, and the learning of fun. Hand and hand with all this is a characteristic that marks an ever-increasing number of our people—loss of interest in rising to meet a challenge.

USSR AS CONSCIENCE

I am afraid, meanwhile, that the present drive toward more and more mathematics and science derives not so much from a conviction that these are good in themselves, but rather from a feeling that we must follow the mandates of our brand new conscience, the Soviet Union. A strong conscience derives from a beloved but at the same time admonitory and critical parent who, while giving us the good things of life, does not permit deviation from a relatively strict moral code. This image of the parent as at once good and admonitory is called *conscience* or *superego*. Since the superego derives from something close, intimate, beloved, and correct, it is real to the child and compels obedience because it is so. When we look across the Atlantic, however, we see an image that has some of the admonitory and critical qualities of a father but lacks the love and the goodies that go with him. This image of the Soviet Union is like a conscience to the American people, who, having plunged into a life of indulgence to cover their disappointments, feel uneasy and guilty about having done so. The Soviet Union, by its very existence amid austerities and self-denial and by the achievements it has reared upon this base, is like an accusing finger—like an accusing conscience—before the American people. But, since it is far away, and since it has done us no good, Americans will not feel bound to these implied admonitions. Meanwhile, since we fly to fun and self-indulgence from hard work because deeper needs draw us away from the path of sweat left by the toiling Russians, the pressures placed on American teachers and students to work hard at mathematics and science may encounter resistance because the moral implications of the Russian way of life are antagonistic to the American configuration.

Within this conflict between two life styles for the allegiance of the child, one can discern the possibility of varieties of role conflicts. Let us imagine, for example, the situation of a principal who runs a town school that is a mixture of children who will *not* go to college, largely children of unskilled and semi-skilled manual and service workers, and those who *will* go to college, *i.e.*, a few children of skilled and semi-skilled manual and service workers, but mostly offspring of the business, professional, and executive group. Let us assume that the school has for years been under a board of education that has concerned itself largely with problems like the allocation of funds for playgrounds, stationery, and the janitorial staff. The school has done the best it could with its heterogeneous student population as the teachers moved in the direction of the life-adjustment attitude toward education: being mothers to the children, helping to meet their needs as they saw them. Suddenly, under the new impact, the doctor, the engineer, and the owner of the town shoe factory, the most aggressive and powerful members of the board, put pressure on the superintendent to give the schools a new coat of scientific paint.

In attempting to imagine the consequences of this, let us consider the homes of the worker's children. When Johnny comes home with his new mathematics problems, daddy, who used to be able to help him, is now powerless and may see his child receive one D or F after the other. Johnny, who used to do fairly well adding up pears and apples, is now lost among associative and commutative discriminations. He becomes deficient in math month after month. His parents may go rarely to PTA meetings, but they express their anxiety in monthly interviews with Johnny's teacher. When Johnny's case is repeated throughout the school, the teachers, with their sensitivity to the children's emotional problems, report the matter to the principal, who tells the superintendent, who, of course, reports to the board. On the board, the Common Man fathers say, "I told you so," and the upper class fathers fume, feeling that the workers' children may hold back theirs.

All of this is first of all a conflict in life-styles, a clash between those who have learned to channel their impulses toward minimal effort—toward comfort and security—on the one hand, and those who have been trained to status striving, maximum drive, and the big life-gamble, on the other. Second, it is a struggle between two status groups, one of which feels that since it has the better education and higher social position, it knows best what is good for the community's children. Third, it is a collision between different orientations toward children, one of which worries about the child's over-all adjustment to life, whereas the other takes a more Spartan view, emphasizing rigor and discipline. In the midst of it all, of course, the putative source of the new impulse, the Soviet threat, is forgotten.

DYNAMIC BLINDNESS

Wrapped warmly in its cocoon of good living, of fun, of self-indulgence, and lulled by an existence that has not known real devastation, it is impossible for the American people as a whole to imagine realistically a "Soviet threat." Russia, our press to the contrary notwithstanding, is largely a distant drum to the American people. Nothing more clearly supports this than the recent (1958) government publication, "Educating Children In Grades Four, Five, and Six." There, in an authoritative publication, the work of the U. S. Office of Education, there is not a word about the relation of American education to the Soviet. What makes this circumstance particularly interesting is the fact that it is based on careful exploration of the opinions of educators at all levels throughout the United States. Contrary to whatever the press may say, educators at the grass roots have not bought the packaged Soviet nightmare.

The research staff of the U. S. Office of Education first analyzed the available literature on the subject and then held "Forty one-day conferences (with educators) including 1,300 persons from 415 school systems in 68 communities of 35 States and the District of Columbia. Large and small urban schools, consolidated and rural schools, and schools made up of different racial and socio-economic groups were represented. . . ." Since the conferees seem to have little concern for what was happening in the Soviet sphere, let us try, by selecting some quotes, to find out what they were concerned about:

> Educators attempting to interpret various viewpoints and suggestions in terms which are meaningful to teachers . . . and sensing their responsibility to the developing and individual patterns of growth and achievement, clarify their goal as that of *helping children achieve continuous development along all lines of growth, the physical, social-emotional, and intellectual, toward happy and effective membership in our society.*

This being the stated goal of education, the following tasks must be performed in order to accomplish it:

> To utilize for motivation of learning in all desirable directions the overwhelming desire of children, ages 9-11, to be active, to be accepted, to make friends among peers, to become more independent of adults, to explore, to make and do, and to acquire values to live by.
>
> To provide environmental influences which motivate good physical, social-emotional, and intellectual growth.
>
> To understand and utilize the differences among children to make it possible for *each child* to grow and to learn the understandings and skills necessary for constructive citizenship in our culture.

SOVIET CONTRAST

Actually, these quotes do not give the full flavor of the monograph. What really pervades it is not so much the emphasis on citizenship —a concept, by the way, which is never defined in the book—but rather on the needs of the child. That is to say, the book is *child centered.* While the volume was going through the press, meanwhile, Premier Khrushchev was addressing the Soviet educators as follows:

> We must reconstruct decisively the system of rearing our younger generation in the schools. The most important thing here is that we have a slogan and that this slogan be sacred for all children entering our school, namely, that every child must prepare for useful work, for participation in the building of a Communist society. And any work—whether in a factory or on a collective farm, in a machine-tractor station, in a repair tractor station, or in an office—any honorable work for the good of society is sacred work and necessary to every man who lives in and enjoys the benefits of society. Every man who lives in a Communist society must contribute his mite of labor to the building and the further development of this social order. To prepare our younger generation for life, for useful labor, to cultivate in them profound respect for the principles of socialist society, this must become the foremost task of our school. . . .
>
> The Communist transformation of society is indissolubly linked with the rearing of a new man in whom spiritual wealth, moral purity, and physical perfection will be harmoniously combined . . .
>
> The Soviet Union has advanced to one of the first places in the world with respect to the development of science and technology. In the quantity and quality of the training of specialists, it has surpassed all other countries. When the first Soviet artificial earth satellite burst into the expanses of the cosmos, many sober and thoughtful people in the capitalist world acknowledged that the broad development and the high level of secondary and higher education in the USSR were among the primary causes responsible for the brilliant victory of Soviet science and technology. The American press wrote in alarm that the Soviet secondary school devotes much more time and attention to the study of mathematics, physics, chemistry, and biology than the American. The United States of America, whose ruling circles boasted of their leading position (in science and technology), now declare that the USA must overtake the Soviet Union in the training of specialists of all kinds. This is an achievement about which one can be proud.[5]

---

[5] G. Counts, **Khrushchev and the Central Committee Speak on Education.** (Pittsburgh: Univ. of Pittsburgh Press, 1958), pp. 33-39.

The significance of these remarks seems to be the following: (1) Soviet emphasis on science is part of a broad program of integration of the individual into the State system. (2) Soviet emphasis on science is a phase of Soviet emphasis on moral character building, of the building of what used to be called in this country the tough Puritan virtues. (3) Soviet emphasis on science is one facet of the total integration of study in school with work in factory, farm, or office after school. (4) Soviet emphasis on science is part of a fierce program of social construction. (5) Soviet emphasis on science is State-oriented, not child-oriented. Looked at another way, the Russians see the growth of the child taking place through his contribution to the State system; Americans see the child's social contribution materializing out of his growth as an individual.

THE CONFLICT PRINCIPLE

What I derive from these comparisons is the possibility of the development, among teachers who feel hard pressed, of a sense of being railroaded, through an overstrong and sudden emphasis on science and mathematics, into something akin to the Russian pattern. Trained as they have been to put the needs of the child first, some will surely look sourly at a program they consider to be designed to put missiles before mothering. As a matter of fact, whatever conflict develops within the breast of the American school teacher over this issue will come not so much because she is asked to do two mutually contradictory things at once—make happy children and make them work hard—but because she is compelled to orient herself toward two mutually contradictory life-styles.

Were we to be really successful in this reorientation of American education, the whole brilliant, chromium-plated, neon-lit circus of American life would be threatened. If, miraculously, overnight, we should create a generation of mathematical and physical whizzes, of children dedicated to learning and to striving for the moon in the sky rather than the pie, the whole structure of our society would be swept away. If the impulses to self-indulgence and fun were arrested in their wild drag-race down the highways of consumption by the cops of science and austerity, who would buy the Cokes, the rock-'n-roll records, the jalopies, the brushed wool sweaters, the Ivy league shirts and pants, and the Persian Melon nail polish? Who would watch TV, listen to the radio, or go to the movies? Where, oh where, would be the billions the teen-agers pour into self-indulgence every year? They would spend it on books! And what adults they would be! As adults, would they buy a new car every third year? Would they be interested in the lavender refrigerator, the yellow telephone, etc., etc.? Consumption of the candy of life would drop severely among a population dedicated to all-out scientific warfare, and with that drop, the consumption and buying patterns that keep our industrial system going would fall disastrously.

SACRED AND PROFANE

Meanwhile, there is in Khrushchev's speech one terribly important word that occurs several times and which we must not overlook. That is the word *sacred*. Using the term as he does, he makes of Communism a sacred system in the literal sense and hence, by implication, makes of education and of work a kind of sacramental initiation into Soviet society as a religious system.

The history of education in all the great civilizations shows beyond question that the status of teachers has always been high when they have dealt with sacred things but that it has been low when they handled things not sacred. Whether it be the rabbi in the eastern European Jewish village, the robed Chinese tutor in the traditional school before the revolution, or the sheik in the village *kuttab* of contemporary Egypt, giving his lessons in the Koran, the status of the teacher of the sacred has been high; whereas his counterpart who deals with the workaday, pedestrian aspects of life—the profane, in the language of anthropology—has always had to struggle for recognition. What the Russians have done in tying teachers to a sacred system is to put them beyond ordinary folk and to give them the dignity of the ages, high salaries, and status. This being the case, the teacher there cannot help dedicating himself without role conflict to whatever duty the State assigns him. He is a holy practitioner who joyfully bends his ear and his neck to the will of the sacred system, for whatever he does in conformity with its will can only glorify him. He is a parish priest of the new order.

But the teacher in our society can hope for no change whatever in her status at the present time, no matter what she does. Defeats of school bonds are among the lesser events that testify to the fact that the teacher's calling is not sacred to us, is not one to which we will sacrifice a little self-indulgence, a little of the lining of our pockets. We are compelled by a life-style that requires maximum self-indulgence to cleave further to that style because we will not spend the money on what is necessary to change it. There is therefore little in the social reaction to the spectre of the Russian challenge to induce the teacher to change her ways. As a matter of fact, the refusal to make adequate expenditures to show her that we are so scared we are ready even to pay to defend ourselves may, indirectly, convince her that there is nothing to be scared about after all. This being the case, why should she change? Why should she put forth the added effort to become a better mathematics or science teacher and to whip her kids along with her, when the population as a whole, by withholding funds to improve education, proclaims that there is nothing to be afraid of?

THE ROLE OF THE TEACHER

I turn finally to some very general considerations of the role of the teacher in the United States. Basically, most teachers are like most people. They have a specific amount of work to get through during the day, and they devote little abstract thought to their role. They tend to be preoccupied with the lesson in hand and to give little attention to the self-conscious ideals of their superiors. At their best, they have a keen interest in the specific work they are covering at the moment and derive enjoyment from contact with the children. At their worst, they are generally ignorant, have not improved their arithmetic since graduating from elementary school, and look upon children as objects upon which they perform certain routine operations, very much as a mechanic on an assembly line, in order to draw a paycheck at the end of the month.

A teacher's conflict in meeting the demands of the new educational style will thus often derive from the part knowledge plays in her own life. For most Americans, the principal incentive to learn is to gain a position in the occupational system; and to some teachers their own education may have been impersonal and mechanical, something like climbing a long flight of stairs. When they have stumbled panting over the last step, they are, thank heaven, finished! Some teachers, when they have completed the last college course and have their degree, utter a fervent "thank heavens, I'm done with all that; now I can begin to live." This means to stop learning, for learning was never for them a sweet enjoyment in itself, but merely a necessary climb to their occupational certificate. If they are now obliged—always, let us remember, without increased rewards—to learn a new program, I can imagine their being bewildered, for they had all their lives believed that their learning stopped with graduation. They now, on the contrary, must change their role from occupier of an occupational slot to that of climber into a new one. They are almost beginning all over again. "This," they may muse, "is where I came in."

A PERSPECTIVE

I would like to state where I stand in this new development. When I look at it one way, I say that certainly the teaching of mathematics and the sciences can and ought to be revolutionized. But so ought everything else to be revolutionized. There are, for example, much deeper conflicts ahead of us in teaching that good poetry has been written since Wordsworth and Tennyson, that Athens, at the time of Socrates, was probably just as full of crass materialism as we are, that the Soviet Union has much that we can learn and profit from, that the people of Indonesia are not dirty savages, and that the Negro brain is no different from the white man's. There are much deeper and more meaningful conflicts in making these changes than in increasing the emphasis on mathematics and science.

Looked at another way, it would appear that in the present scramble many of us seem to have lost sight of the fundamental significance of science, which is the ennoblement of the spirit through the search for truth. It will be recalled that in *The Republic,* Plato cast Socrates in the role of the stubborn searcher for the meaning of virtue. This is still modern man's basic quest, but one to which knowledge of mathematics and science makes little visible contribution. If you could read, as I have, student answers to the question, "What do you think of the rigged TV quiz shows?" you would understand the tremendous sense of alienation from society that has come over many of our youngsters, an alienation from a society against which many of them cry out in anxiety and rage, saying, "You have given us no moral order!" To this I would only comment, "What does it profit us, fellow Americans, if we reach the moon but forsake our soul?"

INTERPRETING THE SELECTIONS

Office of Education and Smith articles

1. Summarize the real similarities and differences of philosophy represented in these two selections. To what extent are they differences in kind and to what extent differences only in emphasis? For example, is a liberal arts education necessarily incompatible with education for adjustment to life? The Office of Education Bulletin says, "[Life-adjustment education] emphasizes active and creative achievements as well as adjustment to existing conditions; it places a high premium upon learning to make wise choices, since the very concept of American democracy demands the appropriate revising of aims and the means of attaining them."

In condemning each other, are the proponents of the two approaches just shadowboxing, or is a true conflict in educational goals represented here?

2. Smith says, "Shouldn't the average student, as well as the bright one, be given an education that will enable him to live in the world as an intelligent citizen, and shouldn't he be given an education that will provide him with some inner resources so that he can live with himself without being swept along by the currents of mass superstition and mass custom?"

3. To what extent are the "pitfalls" in life-adjustment education pointed out by Smith a necessary result of the definition of life-adjustment education given in our selection?

4. Which philosophy is closest to that of the elementary and secondary schools you attended? Did they teach that there are no general principles in

the light of which personal and social problems can be resolved?

5. On the basis of the definition of life-adjustment education given in our first selection, do you feel Dr. Wheat is correct in saying that "our modern life adjustors . . . wish to make [American education] a program with a single support, namely, the fourth cornerpost of Individual Needs and . . . that they have lost faith in the capabilities of American children and youth . . . "?

6. Read some of Dewey's own statements of educational goals. Are Smith's criticisms just? For example, did Dewey hold that there was no order of goods?

7. Get a copy of the Office of Education Bulletin from which our selection was taken. Read the whole thing to see if you feel that it advocates "a sort of gigantic program of social services . . . for these backward ones in which the attempt will be made to adjust them to the stresses of society through a curriculum that will be concerned largely with such personal matters as how to be well groomed, what to talk about on a date, what to do with leisure time, and how to shop for the groceries." What is your first-hand appraisal of "life-adjustment education," as based on: (a) this Bulletin and (b) your observations of school practices?

8. Smith feels that current education of teachers emphasizes the *how* of teaching rather than the *what*. On the basis of your experience, is this a valid statement? Must an either-or choice be made between a liberal arts education and an education in the "how" of teaching?

9. In the last half of the Smith article, education is criticized for following a current pattern in our culture of encouraging conformism and discouraging individuality. Do you feel (a) that this is true of our culture and (b) that it is the responsibility of education to change the culture? If you feel it is the school's responsibility to counteract dangerous trends in the culture, who should decide what trends are dangerous?

Mead article

1. As a committee project, outline some practical plans whereby a school system and the community, working together, might implement an educational program viewed as a continuing process.

2. What changes in the world have contributed to the obsolescence of our present educational system? Do you agree that our traditional concepts of education do need overhauling?

3. How could you as a teacher help students think of their education not as an obstacle course to get through, but rather as a life-long process?

4. In your community are there programs of adult education sponsored by the schools, colleges, or civic groups? To what extent are they meeting the need for continuing education?

Henry article

1. Obtain a copy of *Goals for Americans*, the Report of the President's Commission on National Goals. How do the goals set forth by this Commission, particularly those in the section on education, fit in with the challenges and needs of the country as Dr. Henry outlines them?

2. Should goals for American education be set in response to the Soviet challenge or solely in accord with our own fundamental beliefs? What are some of the goals for education which you believe are crucial for a democratic society?

3. Explain the phrase, "You have given us no moral order!" Is such a charge justifiable?

4. What does this article imply about the merits of the life-adjustment and liberal-arts philosophies of education?

3 HOW CHILDREN GROW AND DEVELOP

Youth and the Life Cycle

Erik H. Erikson[1]

In the never-ending quest to understand what underlies healthy personality development, some theorists present a simplified learning process model, others a historical step-by-step progress sequence. Still others deal with a specific aspect, as in the following articles on early life experience. Erik Erikson presents a dynamic, life-cycle theory of child development which has influenced many workers. In the following interview, Erikson discusses his eight "stages of psychosocial development," each of which holds a special crisis that must be successfully resolved before the next one can be met effectively. As you read, contrast the sequence with those you have studied—Freud and others—noting particularly the attention given here to the goal of healthy, normal personality development.

Question: *Are there any points about your concepts of psychosocial development which you would now like to stress in the light of what you have heard about how they have been interpreted during the past decade in the training of professional persons and through them of parents and future parents?*

Yes, I am grateful for the opportunity of making a few observations on the reception of these concepts. You emphasize their influence on teaching in various fields; let me pick out a few misunderstandings.

I should confess to you here how it all started. It was on a drive in the countryside with Mrs. Erikson that I became a bit expansive, telling her about a kind of ground plan in the human life cycle, which I seemed to discern in life histories. After a while she began to write, urging me just to go on; she had found my "plan" immediately convincing. Afterwards, a number of audiences of different professional backgrounds had that same sense of conviction—so much so that I (and others) became somewhat uneasy: after all, these psychosocial signposts are hardly *concepts* yet, even if the whole plan represents a valid *conception*, one which suggests a great deal of work.

---

[1] from Children, Vol. 7, No. 2, Mar.-Apr. 1960, pp. 43-49. Reprinted by permission of the Children's Bureau, Department of Health, Education, and Welfare, and the interviewer, Kathryn Close.

What Mrs. Erikson and I subsequently offered to the White House Conference of 1950 was a kind of worksheet, which has, indeed, been used by others as well as myself in scientific investigation, and well integrated in a few textbooks. But its "convincingness" has also led to oversimplifications. Let me tell you about a few.

There has been a tendency here and there to turn the eight stages into a sort of rosary of achievement, a device for counting the fruits of each stage—trust, autonomy, initiative, and so forth—as though each were achieved as a permanent trait. People of this bent are apt to leave out the negative counterparts of each stage, as if the healthy personality had permanently conquered these hazards. The fact is that the healthy personality must reconquer them continuously in the same way that the body's metabolism resists decay. All that we learn are certain fundamental means and mechanisms for retaining and regaining mastery. Life is a sequence not only of developmental but also of accidental crises. It is hardest to take when both types of crisis coincide.

In each crisis, under favorable conditions, the positive is likely to outbalance the negative, and each reintegration builds strength for the next crisis. But the negative is always with us to some degree in the form of a measure of infantile anxiety, fear of abandonment—a residue of immaturity carried throughout life, which is perhaps the price man has to pay for a childhood long enough to permit him to be the learning and the teaching animal, and thus to achieve his particular mastery of reality.

You may be interested to know that further clinical research has indicated that our dream life often depicts a recovery of mastery along the lines of these stages. Moreover, nurses have observed that any adult who undergoes serious surgery has to repeat the battle with these nemeses in the process of recovery. A person moves up and down the scale of maturity, but if his ego has gained a positive balance during his developmental crises the downward movements will be less devastating than if the balance, at one stage or another, was in the negative.

Of all the positive aspects mentioned, trust seems to have been the most convincing—so convincing, in fact, that some discussions never reach a consideration of the other stages. I don't mean to detract from the obvious importance of trust as the foundation of the development of a healthy personality. A basic sense of trust in living as such, developed in infancy through the reciprocal relationship of child and mother, is essential to winning the positive fruits of all the succeeding crises in the life cycle: maybe this is what Christmas, with its Madonna images, conveys to us. Yet, it is the nature of human life that each succeeding crisis takes place within a widened social radius where an ever-larger number of significant persons have a bearing on the outcome. There is in childhood, first, the maternal person, then the parental combination, then the basic family and other instructing adults. Youth demands "confirmation" from strangers who hold to a design of life; and later, the adult needs challenges from mates and partners, and even from his growing children and expanding works, in order to continue to grow himself. And all of these relationships must be imbedded in an "ethos," a cultural order, to guide the individual's course.

In our one-family culture (supported by pediatricians and psychiatrists who exclusively emphasize the mother-child relationship) we tend to lose sight of the fact that other people besides parents are important to youth. Too often we ask only where a given youth came from and what he once was, and not also where he was going, and who was ready to receive him and his intentions and his specific gifts. Thus we have movements to punish parents for the transgressions of their children, ignoring all the other persons and environmental factors that entered into the production of a young person's unacceptable behavior and failed to offer support to his positive search.

Another way in which the life cycle theory has been oversimplified is in the omission of stages which do not fit into the preconceived ideas of the person who is adopting or adapting the theory. Thus a large organization devoted to parenthood distributed a list of the stages but omitted *integrity vs. despair*—the problem of senescence. This is too easy a way to dispose of grandparents; it robs life of an inescapable final step; and, of course, it defeats this whole conception of an intrinsic order in the life cycle.

This kind of omission ignores the "cogwheeling" of infantile and adult stages—the fact that each further stage of growth in a given individual is not only dependent upon the relatively successful completion of his own previous stages, but also on the completion of the subsequent stages in those other individuals with whom he interacts and whom he accepts as models.

Finally, I should point to the fact that what my psychoanalytic colleagues warned me of most energetically has, on occasion, come to pass: even sincere workers have chosen to ignore my emphasis on the intrinsic relation of the psychosocial to the psychosexual stages which form the basis of much of Freud's work.

All of these misuses, however, may be to a large extent the fault of my choice of words. The use of simple, familiar words like "trust" and "mistrust" apparently leads people to assume that they know "by feel" what the theory is all about. Perhaps this semantic problem would have been avoided if I had used Latin terms, which call for definitions.

I may point out, however, that I originally suggested my terms as a basis for discussions—discussions led by people who have an idea of the interrelatedness of all aspects of human development. For the eight stages of psychosocial development are, in fact, inextricably entwined in and derived from the various stages of psychosexual development that were described by Freud, as well as from the child's stages of physical, motor, and cognitive development. Each type of development affects the other and is affected by it. Thus, I feel that discussants would do well to study each key word in its origins, in its usage in various periods and regions, and in other languages. Simple words that touch upon universal human values have their counterpart in every living language, and can become vehicles of understanding at international conferences.

Incidentally, I made up one new word because I thought it was needed. To me, "generativity" described the chief characteristic of the mature adult. It was turned into a comfortable, if inaccurate, homespun word before it ever left the Fact-Finding Committee of 1950. I had deliberately chosen "generativity" rather than "parenthood," or "creativity," because these narrowed the matter down to a biological and an artistic issue instead of describing the deep absorption in guiding the young or in helping to create a new world for the young, which is a mark of maturity in parents and nonparents, working people and "creative" people alike.

Enough of this fault-finding! But it *is* interesting to see what can happen to new ideas; and you *did* ask me.

Question: *During the past 10 years you have been treating and studying mentally ill young people at a public clinic in a low-income area in Pittsburgh and at a private, comparatively expensive, mental hospital in the Berkshires. Have you found any common denominator in the disturbances of these patients—from such opposite walks of life—that would seem to point to any special difficulty harassing the young people of our land today?*

Since 1950, I have concentrated on the life histories of sick young people in late adolescence and early adulthood primarily in order to study one of the crises magnified, as it were, with the clinical microscope. I think that our initial formulations of the identity crisis have been clinically validated and much refined.

Many of these sick young people in their late teens and early twenties had failed during their adolescence to win out in the struggle against identity confusion. They were suffering so seriously from a feeling of being (or, indeed, wanting to be) "nobody" that they were withdrawing from reality, and in some cases even attempting to withdraw from life itself: in other words, they were regressing to a position where trust had to be reinstated. Their malaise proved to be related to the same sense of diffuseness which drives other young adults to incessant and sometimes delinquent activity—an effort to show the world, including themselves, that they are "somebody" even if deep down they do not believe it.

In the meantime, of course, the identity issue has been taken up by many writers and by

The Eight Stages in the Life Cycle of Man

"Personality," Erikson has written, "can be said to develop according to steps predetermined in the human organism's readiness to be driven toward, to be aware of, and to interact with a widening social radius, beginning with a dim image of a mother and ending with an image of mankind. . . ." Following are the steps he has identified in man's psychosocial development, and the special crises they bring. In presenting them, he has emphasized that while the struggle between the negatives and positives in each crisis must be fought through successfully if the next developmental stage is to be reached, no victory is completely or forever won.

I. Infancy: trust vs. mistrust

The first "task" of the infant is to develop "the cornerstone of a healthy personality," a basic sense of trust—in himself and in his environment. This comes from a feeling of inner goodness derived from "the mutual regulation of his receptive capacities with the maternal techniques of provision"[2]—a quality of care that transmits a sense of trustworthiness and meaning. The danger, most acute in the second half of the first year, is that discontinuities in care may increase a natural sense of loss, as the child gradually recognizes his separateness from his mother, to a basic sense of mistrust that may last through life.

II. Early childhood: autonomy vs. shame and doubt

With muscular maturation the child experiments with holding on and letting go and begins to attach enormous value to his autonomous will. The danger here is the development of a deep sense of shame and doubt if he is deprived of the opportunity to learn to develop his will as he learns his "duty," and therefore learns to expect defeat in any battle of wills with those who are bigger and stronger.

III. Play age: initiative vs. guilt

In this stage the child's imagination is greatly expanded because of his increased ability to move around freely and to communicate. It is an age of intrusive activity, avid curiosity, and consuming fantasies which lead to feelings of guilt and anxiety. It is also the stage of the establishment of conscience. If this tendency to feel guilty is "overburdened by all-too-eager adults" the child may develop a deep-seated conviction that he is essentially bad, with a resultant stifling of initiative or a conversion of his moralism to vindictiveness.

IV. School age: industry vs. inferiority

The long period of sexual latency before puberty is the age when the child wants to learn how to do and make things with others. In learning to accept instruction and to win recognition by producing "things" he opens the way for the capacity of work enjoyment. The danger in this period is the development of a sense of inadequacy and inferiority in a child who does not receive recognition for his efforts.

V. Adolescence: identity vs. identity diffusion

The physiological revolution that comes with puberty—rapid body growth and sexual maturity—forces the young person to question "all sameness and continuities relied on earlier" and to "refight many of the earlier battles." The developmental task is to integrate childhood identifications "with the basic biological drives, native endowment, and the opportunities offered in social roles." The danger is that identity diffusion, temporarily unavoidable in this period of physical and psychological upheaval, may result in a permanent inability to "take hold" or, because of youth's tendency to total commitment, in the fixation in the young person of a negative identity, a devoted attempt to become what parents, class, or community do not want him to be.

VI. Young adulthood: intimacy vs. isolation

Only as a young person begins to feel more secure in his identity is he able to establish intimacy with himself (with his inner life) and with others, both in friendships and eventually in a love-based mutually satisfying sexual relationship with a member of the opposite sex. A person who cannot enter wholly into an intimate relationship because of the fear of losing his identity may develop a deep sense of isolation.

VII. Adulthood: generativity vs. self-absorption

Out of the intimacies of adulthood grows generativity—the mature person's interest in establishing and guiding the next generation. The lack of this results in self-absorption and frequently in a "pervading sense of stagnation and interpersonal impoverishment."

VIII. Senescence: integrity vs. disgust

The person who has achieved a satisfying intimacy with other human beings and who has adapted to the triumphs and disappointments of his generative activities as parent and coworker reaches the end of life with a certain ego integrity—an acceptance of his own responsibility for what his life is and was and of its place in the flow of history. . . .

---

[2] Erik H. Erikson, "Growth and Crises of the 'Healthy Personality,'" **Symposium on the Healthy Personality** (New York: Josiah Macy, Jr., Foundation, 1950).

some magazines, almost in the form of a slogan. We are prone to think that we have cornered an issue when we have found a name for it, and to have resolved it when we have found something to blame. So now we blame "the changing world."

Actually, there is no reason why youth should not participate with enthusiasm in radical change; young people are freer for change than we are. The bewildering thing for them must be that we now complain about change, having eagerly caused it ourselves with inventions and discoveries; that we seem to have played at change rather than to have planned it. If we had the courage of our inventions, if we would grow into the world we have helped to create, and would give youth co-responsibility in it, I think that all the potential power of the identity crisis would serve a better world than we can now envisage.

Let me say a word about identity, or rather about what it is not. The young person seeking an identity does not go around saying, even to himself, "Who am I?" as an editorial in a national magazine suggested last year's college graduates were doing on their way home. Nor does the person with a secure sense of identity usually stop to think or to brag about the fact that he has this priceless possession, and of what it consists. He simply feels and acts predominantly in tune with himself, his capacities, and his opportunities; and he has the inner means and finds the outer ways to recover from experiences which impair this feeling. He knows where he fits (or knowingly prefers not to fit) into present conditions. . . .

This sense of a coincidence between inner resources, traditional values, and opportunities of action is derived from a fusion of slowly grown, unconscious personality processes—and contemporary social forces. It has its earliest beginnings in the infant's first feelings of affirmation by maternal recognition and is nurtured on the quality and consistency of the parental style of upbringing. Thus identity is in a sense an outgrowth of all the earlier stages; but the crucial period for its development to maturity comes with the adolescent crisis.

Every adolescent is apt to go through some serious struggle at one time or another. The crises of earlier stages may return in some form as he seeks to free himself from the alignments of childhood because of both his own eagerness for adulthood and the pressures of society. For a while he may distrust what he once trusted implicitly; may be ashamed of his body, and doubtful of his future. He experiments, looking for affirmation and recognition from his friends and from the adults who mean most to him. Unconsciously, he revamps his repertory of childhood identifications, reviving some and repudiating others. He goes in for extremes—total commitments and total repudiations. His struggle is to make sense out of what has gone before in relation to what he now perceives the world to be, in an effort to find a persistent sameness in himself and a persistent sharing of some kind of essential character with others.

Far from considering this process to be a kind of maturational malaise, a morbid egocentricity of which adolescents must be "cured," we must recognize in it the search for new values, the willingness to serve loyalties which prove to be "true" (in any number of spiritual, scientific, technical, political, philosophical, and personal meanings of "truth") and thus a prime force in cultural rejuvenation.

The strengths a young person finds in adults at this time—their willingness to let him experiment, their eagerness to confirm him at his best, their consistency in correcting his excesses, and the guidance they give him—will codetermine whether or not he eventually makes order out of necessary inner confusion and applies himself to the correction of disordered conditions. He needs freedom to choose, but not so much freedom that he cannot, in fact, make a choice.

In some adolescents, in some cultures, in some historical epochs this crisis is minimal; in others it holds real perils for both the individual and society. Some individuals, particularly those with a weak preparation in their preceding developmental crises, succumb to it with the formation of neuroses and psychoses. Others try to resolve it through adherence—often temporary—to radical kinds of religious, political, artistic, or criminal ideologies.

A few fight the battle alone and, after a prolonged period of agony characterized by erratic mood swings and unpredictable and apparently dangerous behavior, become the spokesmen of new directions. Their sense of impending danger forces them to mobilize their capacities to new ways of thinking and doing which have meaning, at the same time, for themselves and their times. In my book "Young Man Luther" I have tried to show how identity is related to ideology and how the identity struggle of one intense young genius produced a new person, a new faith, a new kind of man, and a new era.

I think I chose to write about Luther and his time because there are many analogies between our time and his, although today the problems which beset all historical crises are global and, as it were, semifinal in character. Today, throughout the world, the increasing pace of technological change has encroached upon traditional group solidarities and on their ability to transmit a sense of cosmic wholeness and technological planfulness to the young.

To me one of the most disturbing aspects of our technological culture is the imbalance between passive stimulation and active outlet in the pleasures that are sanctioned for young people. With the passing of the western frontier and the accelerated appearance of automatic gadgets, young people have become increasingly occupied with passive pursuits which require little participation of mind or body—being conveyed rapidly through space by machines and watching violent fantasies at the movies or on television—without the possibility of matching the passive experience with active pursuits. When an adolescent substitutes passivity for the adventure and activity which his muscular development and sexual drives require, there is always the danger of explosion—and I think that this accounts for much of the explosive, unexpected, and delinquent acts on the part of even our "nice" young people.

This is probably why "Westerns," always on the borderline of the criminal and the lawful, capture the passive imagination of a youth which has traditionally substituted identification with the rugged individualist—the pioneer who ventures into the unknown—for commitment to a political ideology; and which now finds itself confronted with increasing demands for standardization, uniformity, and conformity to the rituals of a status-convention. While the national prototype has historically been based on readiness for change, the range of possibilities of what one might choose to be and of opportunities to make a change [has] narrowed. To this has been added most recently the rude shaking of the once "eternal" image of our Nation's superiority in productivity and technical ingenuity through the appearance of Sputnik and its successors.

Thus one might say the complexity of the adolescent state and the confusion of the times meet head on.

However, I believe that the "confusion" derives from a hypocritical denial of our true position, both in regard to obvious dangers and true resources. When youth is permitted to see its place in a crisis, it will, out of its very inner dangers, gain the strength to meet the demands of the time.

Clinical experience with young people has, it is true, verified that combination of inner and outer dangers which explains aggravated identity crises. On the other hand, it has convinced me and my colleagues, even in hospital work, of the surprising resources which young people can muster if their social responsibilities are called upon in a total environment of psychological understanding.

Question: *Does this kind of confusion have anything to do with juvenile delinquency?*

I would not want to add here to the many claims concerning distinct and isolated causes of juvenile delinquency. But I would like to stress one contributing factor: the confused attitudes of adults—both laymen and professionals—towards the young people whom we, with a mixture of condescension and fear, call teenagers.

Except perhaps in some rare instances of congenital defects resulting in a low capacity to comprehend values, juvenile delinquents are made, not born; and we adults make them. Here, I am not referring to their parents exclusively. True, many parents, because of their own personalities and backgrounds, are not able to give their children a chance for a favorable resolution of the identity crisis. Nor am I referring to the failure of society at large to correct those blights on the social scene—such as overcrowded slums and inequality of opportunities for minority groups—which make it impossible for tens of thousands of young people to envisage an identity in line with the prevailing success-and-status ideology.

Rather I am referring to the attitudes of adults—in the press, in court, and in some professional and social institutions—which push the delinquent young person into a "negative identity," a prideful and stubborn acceptance of himself as a juvenile delinquent—and this at a time when his experimentation with available roles will make him exquisitely vulnerable (although he may not admit or even know it) to the opinions of the representatives of society. When a young person is adjudicated as a potential criminal because he has taken a girl for a ride in somebody else's car (which he intended to abandon, not to appropriate), he may well decide, half consciously, of course, but none the less with finality, that to have any real identity at all he must be what he obviously *can* be—a delinquent. The scolding of young people in public for the indiscretions they have committed, with the expectation that they show remorse, often ignores all the factors in their histories that force them into a delinquent kind of experimentation. It is certainly no help toward a positive identity formation.

In his insistence on holding on to an active identity, even if it is temporarily a "negative" one from the point of view of society, the delinquent is sometimes potentially healthier than the young person who withdraws into a neurotic or a psychotic state. Some delinquents, perhaps, in their determination to be themselves at all costs and under terrible conditions have more strength and a greater potential for contributing to the richness of the national life than do many excessively conforming or neurotically defeatist members of their generation, who have given up youth's prerogatives to dream and to dare. We must study this problem until we can overcome the kind of outraged bewilderment which makes the adult world seem untrustworthy to youth and hence may seem to justify the choice of a delinquent identity.

Actually, transitory delinquency, as well as other forms of antisocial or asocial behavior, often may be what I have called a *psychosocial moratorium*—a period of delay in the assumption of adult commitment. Some youths need a period of relaxed expectations, of guidance to the various possibilities for positive identification through opportunities to participate in adult work, or even of introspection and experimentation—none of which can be replaced by either moralistic punishment or condescending forgiveness.

Question: *The theme of the 1960 White House Conference on Children and Youth charges the Conference with studying and understanding "the values and ideals of our society" in its efforts "to promote opportunities for children and youth to realize their full potential for a creative life in freedom and dignity." On the basis of the scheme which you presented to us in 1950, could you add a word about how these values, once identified, can be transmitted in a way that will insure their incorporation into the value systems of the young?*

Like every other aspect of maturity the virtues which we expect in a civilized human being grow in stages as the child develops from an infant to an adult. What is expected of a child at any time must be related to his total maturation and level of egostrength, which are related to his motor, cognitive, psychosexual, and psychosocial stages. You can't expect total obedience from a 2-year-old who must test a growing sense of autonomy, nor total truth from a 4-year-old involved in the creative but often guilt-ridden fantasies of the oedipal stage.

It would be in line with the course of other historical crises if in our Nation today a certain sense of moral weakness were producing a kind of frantic wish to enforce moral strength in our youth with punitive or purely exhortative measures.

Today, a sense of crisis has been aggravated by the long cold war and the sudden revelation of the technical strength of a supposedly "backward" rival. We are wondering whether we have made our children strong enough for living in such an unpredictably dangerous world. Some people, who suddenly realize that they have not been responsible guardians of all the Nation's young, now wonder whether they should have beaten moral strength into them or preached certain absolute values more adamantly.

No period, however, can afford to go back on its advances in values and in knowledge, and I trust that the 1960 White House Conference will find a way to integrate our knowledge of personality development with our national values, necessities, and resources. What we need is not a plan whereby relatively irresponsible adults can enforce morality in their children, but rather national insistence on a more *responsible* morality on the part of adults, paired with an *informed* attitude toward the *development* of moral values in children. Values can only be fostered gradually by adults who have a clear conception of what to expect and what not to expect of the child as, at each stage, he comes to understand new segments of reality and of himself, and who are firm about what they are sure they *may* expect.

It must be admitted that psychiatry has added relatively little to the understanding of morality, except perhaps by delineating the great dangers of moralistic attitudes and measures which convince the child only of the adult's greater executive power, not of his actual moral power or true superiority. To this whole question, I can, on the basis of my own work, only indicate that the psychosocial stages discussed in 1950 seem to open up the possibility of studying the way in which in each stage of growth the healthy child's developmental drives dispose him toward a certain set of qualities which are the necessary fundaments of a responsible character: in *infancy,* hope and drive; in *early childhood,* will and control; in the *play age,* purpose and direction; in the *school age,* skill and method; and in *adolescence,* devotion and fidelity. The development of these basic qualities in children, however, depends on the corresponding development in adults of qualities related to: in *young adulthood,* love, work, and affiliation; in *adulthood,* care, parenthood, and production; and in *old age,* "wisdom" and responsible renunciation.

Now I have given you another set of nice words, throwing to the winds my own warning regarding the way they can be misunderstood and misused. Let me point out, therefore, that I consider these basic virtues in line with our advancing psychoanalytic ego-psychology, on the one hand, and without advancing knowledge of psychosocial evolution, on the other, and that the conception behind this list can only be studied in the context of advancing science. I will discuss this further in a forthcoming publication, but I mention it now because I thought I owed you a reference to the way in which my contribution of 1950 has gradually led me in the direction of the great problem of the anchoring of virtue in human nature as it has evolved in our universe.

We ought to regard the breaking of a child's spirit—by cruel punishment, by senseless spoiling, by persistent hypocrisy—as a sin against humanity. Yet today we have back-to-the-woodshed movements. Last year in the legislature of one of our greatest States a bill was introduced to allow corporal punishment in the public schools and was lauded by part of the press. This gave the Soviets a chance to declare publicly against corporal punishment, implying that they are not sufficiently scared by their own youth to go back on certain considered principles in the rearing of the young. Actually, I think that we stand with the rest of the civilized world on the principle that if adult man reconsiders his moral position in the light of historical fact, and in the light of his most advanced knowledge of human nature, he can afford, in relation to his children, to rely on a forbearance which step by step will bring the best *out* of them. . . .

Emotional Development in Infancy

René A. Spitz[3]

There are many approaches to the study of children's growth and development. The three articles that follow have been selected to give you some first-hand experience in the difficult process of trying to build sound generalizations based on research findings. Here you can read the original data and make your own deductions rather than have them made for you by some authority. Since the authors disagree with each other, not all can be correct. You must decide which seems most valid.[4] The first article summarizes several years' studies of early emotional development.

In the following an extremely condensed report on our findings on psychosocial factors in infant development will be presented. To call attention to the function of such factors in infancy appears to us an urgent need, for it is not generally appreciated that at this age influences of a psychosocial nature are more startling in their consequences for development than at any other period of childhood in later life.

The reasons for this are manifold. At no later period is the development so rapid, so turbulent and so conspicuous. It involves; more obviously than at any later period, the somatic as well as the psychological aspects. Any variation in the development will be manifested in both these sectors, with the result, as will be shown further on, that such variations caused by psychosocial factors can literally become matters of life and death.

In a certain sense development at this age is facilitated by certain peculiarities which infancy does not share with later stages. In infancy development takes place from a quasi-animal level to the human level. This involves the problems of adaptation and communication which arise toward the end of the first year of life. Any anomaly in the solution of these problems will be particularly conspicuous.

Another peculiarity of infancy is that in it environment, in the widest sense of the word, is extraordinarily restricted. The radius of the infant's physical environment is extremely narrow. The social environment in the life of the normal infant is restricted practically to one single person: the infant's mother. This concentration of the infant's habitat and of its social contacts permits the investigator exceedingly close insight into the psychosocial factors operative in the infant's life.

A further facilitation in the study of our problem is offered by another peculiarity of infant life. The single infant can be studied in its family and also in large groups, in institutions. Nevertheless our proposition that the infant's environment is restricted to one person, the mother or her substitute, remains substantially unchanged (unless the institution in question should entrust the care of the infants to a number of different persons). For during the largest part of the first year of life no interaction takes place between one infant and the others, such as would be the case between the inmates of institutions at later ages. This makes it possible to study infants of different races and of different hereditary endowment under identical environmental conditions, keeping a large number of variables constant.

---

[3] from "The Role of Ecological Factors in Emotional Development in Infancy," Child Development, 1949, 20:145-155. Reprinted by permission of author and publisher.

[4] A further intensive development of this problem is found in a symposium in The Psychoanalytic Study of the Child, Vol. XV, 1960, pp. 9-95. It includes papers by John Bowlby, Anna Freud, Max Schur, and René Spitz.

These premises determined 14 years ago the beginnings of our research into the problems of emotional development in infancy. Relatively little work had been done at that time in regard to the development of emotions as such or in regard to the influence of emotions on development.

A few brief statements will clarify our position on the question of emotional development as observed in the course of our work.

Emotions are not present ready-made from birth. Like any other sector of the human personality they have to develop.

We usually conceive of emotions as paired: friendliness and anger, love and hate, pleasure and displeasure, gay and sad, are the terms in which we think of emotions. But at birth the first emotion visible is a state of diffuse excitation in the nature of displeasure and no pleasurable emotion is observable as its counterpart, only a state of quiescence. A variety of emotions develops from this beginning in the further course of the first year of life. We have been able to correlate the progressive development of specific emotions to definite age levels.

Two distinct emotional responses are differentiated in the course of the first two months of life. They appear to correspond to pleasure and displeasure, and they seem to appear in reaction to physical stimulation.

A response to psychological stimulation seems to present itself for the first time in the third month, when the infant smiles in response to a human partner's face.

Somewhat later displeasure also is manifested in response not only to physical, but also to psychological stimulation. It can be observed in the reaction of the infant to being left alone when its human partner goes away.

After the sixth month negative emotions take the lead. Anxiety is differentiated from the displeasure reaction. We assume that a minimum of ego development is the prerequisite for the development of anxiety and find ourselves in agreement on this point with E. Hilgard.

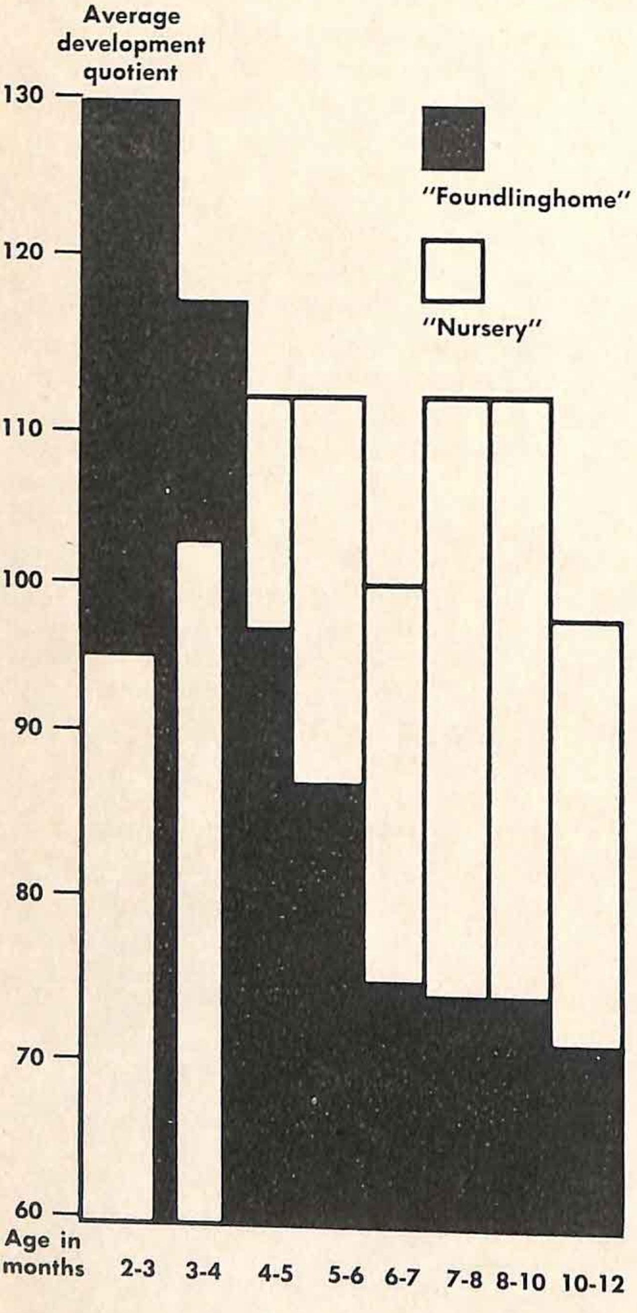
In the following two months possessive emotions toward toys are manifested. Jealousy appears in the ninth and tenth months; between the tenth and twelfth months disappointment, anger, love, sympathy, friendliness, enjoyment and a positive sense of property become observable. The age levels mentioned should not be considered as definite limits. They designate approximate ages at which these emotions appear and may vary widely both according to individuals and circumstances.

The significant part of this emotional development is that during the whole of the first year emotional discrimination is manifested approximately two months earlier than any other form of perception. The three months smiling response, which is the infant's smiling recognition of the human partner's face, appears at an age at which no other object is recognized. Even food, the most familiar object in the baby's life, is recognized only more than two months later. The displeasure which the infant manifests at four months when left by its partner, appears two months earlier than the displeasure shown by the child when its toy is taken away. The eight months anxiety shown by the child when confronted with strangers is a sign that it has achieved the capacity to discriminate between friend and stranger. This appears two months earlier than the child's capacity to differentiate toys and other objects from each other. Thus emotional development acts as the trailbreaker for all other perceptive development during infancy.

These are the main stations of emotional development which we were able to locate in the course of the first year of life. For the purposes of our other investigations they served as points of orientation. These points of orientation we combined with the well-known findings on physical and mental development, investigated in such excellent detail by Gesell, Bühler, McGraw, Goodenough, Thompson, Pratt, Shirley and many others. We applied the combination of these two viewpoints for the purpose of comparing infants raised under different ecological circumstances.

A brief summary of the first such investigation made by us may serve as an illustration for the [results of other studies].

COMPARISON OF DEVELOPMENT IN "NURSERY" AND "FOUNDLINGHOME"



The investigation in question was carried out in two institutions which we had the opportunity to observe simultaneously. Both institutions had certain similarities: the infants received adequate food, hygiene and asepsis were strictly enforced, the housing of the children was excellent, and medical care more than adequate. In both institutions the infants were admitted shortly after birth.

The institutions differed in one single factor. This factor was the amount of emotional interchange offered. In institution No. 1, which we have called "Nursery," the children were raised by their own mothers. In institution No. 2, which we have called "Foundlinghome," the children were raised from the third month by overworked nursing personnel: one nurse had to care for from eight to twelve children. Thus the available emotional interchange between child and mother formed the one independent variable in the comparison of the two groups.

The response to this variable showed itself in many different ways. Perhaps the most comprehensive index of this response is offered by the monthly averages of the developmental quotients of these children.

The developmental quotient represents the total of the development of six sectors of the personality: mastery of perception, of bodily functions, of social relations, of memory and imitation, of manipulative ability and of intelligence. The monthly averages of the developmental quotients of the children in the two institutions over a period of twelve months are shown in the chart [at left].

The contrast in the development of the children in the two institutions is striking. But this twelve months chart does not tell the whole story. The children in "Foundlinghome" continued their downward slide and by the end of the second year reached a developmental quotient of 45. We have here an impressive example of how the absence of one psychosocial factor, that of emotional interchange with the mother, results in a complete reversal of a developmental trend. . . .

It should be realized that the factor which was present in the first case, but eliminated in the second, is the pivot of all development in the first year. It is the mother-child relation. By choosing this factor as our independent variable we were able to observe its vital importance. While the children in "Nursery" developed into normal healthy toddlers, a two-year observation of "Foundlinghome" showed that the emotionally starved children never learned to speak, to walk, to feed themselves. With one or two exceptions in a total of 91 children, those who survived were human wrecks who behaved either in the manner of agitated or of apathetic idiots.

The most impressive evidence probably is a comparison of the mortality rates of the two institutions. "Nursery" in this respect has an outstanding record, far better than the average of the country. In a five years' observation period during which we observed a total of 239 children, each for one year or more, "Nursery" did not lose a single child through death. In "Foundlinghome" on the other hand, 37 per cent of the children died during a two years' observation period. . . .

The high mortality is but the most extreme consequence of the general decline, both physical and psychological, which is shown by children completely starved of emotional interchange.

We have called this condition marasmus, from the picture it shows; or hospitalism according to its etiology. The ecological background of marasmus is the orphanage and the foundling home which were current in our country in the last century. This ecological background leads to the picture of a developmental arrest which progressively becomes a developmental regression. Its earliest symptoms are developmental retardations in the different sectors of personality. Changes occur in the emotional development, later the emotional manifestations become progressively impoverished, finally they give way to apathy. In those cases which survived we have found [also] . . . a hyper-excitable personality type. . . .

The results of this study caused us to focus our attention on the mother-child relation in all our further research on infants. We strove to examine whether in less spectacular conditions also it was truly such an all-important influence. Closer investigation bore out this impression. We could establish, in the course of our further research, with the help of statistical methods, that the regularity in the emergence of emotional response, and subsequently of developmental progress both physical and mental, is predicated on adequate mother-child relations. Inappropriate mother-child relations resulted regularly either in the absence of developmental progress, emotional or otherwise, or in paradoxical responses.

This is not a surprising finding for those who have observed infants with their mothers; during the first year of life it is the mother, or her substitute, who transmits literally every experience to the infant. Consequently, barring starvation, disease or actual physical injury, no other factor is capable of so influencing the child's development in every field as its relation to its mother. Therefore this relationship becomes the central ecological factor in infant development in the course of the first year. On the other hand, development, particularly in the emotional sector, provides an extremely sensitive and reliable indicator of variations in the mother-child relationship.

A few of the further findings made by us in this respect will follow. If our first example showed the complete deprivation of emotional interchange, the following ones will present other and less striking modifications of the mother-child relation.

If, for instance, the deprivation of emotional interchange starts at a later date, in the third quarter of the first year, a condition can develop which greatly resembles the picture of depression in the adult. The psychic structure of the infant is rudimentary and can in no way be compared to that of the adult. Therefore the similarity of the symptomatology should not induce us to assume an identity of the pathological process. To stress this difference we have called the condition anaclitic depression.

INFLUENCE OF SEPARATION FROM MOTHER ON DEVELOPMENTAL QUOTIENT (NURSERY GROUP)

Duration of separation in months	Severe depression Changes in points of DQ
Under 3	— 12.5
3 to 4	— 14
4 to 5	— 14
Over 5	— 25

As the name implies, the presenting symptom is a very great increase in the manifestations of the emotions of displeasure. This goes to the point where anxiety reactions in the nature of panic can be observed. Children in this condition will scream by the hour; this may be accompanied by autonomic manifestations such as tears, heavy salivation, severe perspiration, convulsive trembling, dilation of pupils, etc.

At the same time development becomes arrested. [See table on p. 49.] The arrest is selective: the least involved is the social sector which remains relatively advanced.

One peculiarity of this condition is that the re-establishment of favorable emotional interchange will rapidly re-establish the developmental level: However, this is only true for separations which do not last longer than three months. If the deprivation lasts longer than five months no improvement is shown. On the contrary, the developmental quotient continues its decline, though at a slower rate, and it would seem that a progressive process has been initiated. . . .

We observed a completely different course of development in children who were not separated but whose mothers showed periodical mood swings. We observed a group of 153 mothers and their children in which 16 of the mothers showed such mood swings. Their children developed coprophagia at the end of the third quarter. . . .

From the emotional viewpoint these children showed strange distorted personalities. In the most extreme cases we could observe a suspicious, near-paranoid facial expression and behavior.

In another series of children whose mothers presented an infantile personality characterized by constant, rapid shifts in their attitude, showing hostility alternating with over-protectiveness towards their children literally within minutes, we found the development of the children retarded in a different manner again. There was a definite and significant retardation in the social responses and in manipulative ability. Such a retardation is the expression of a diminished capacity of these children to relate themselves to human beings or to manipulate inanimate objects. The resulting clinical picture was a specific one: objectless bodily activity became the children's outstanding occupation. We called this condition hyper-motility. From a few cases which could be followed up at later stages we suspect that this may be the forerunner of the psychiatric picture which develops later and is known [as psychopathy].

CONCLUSION

These few and brief statements give the essence of the findings made by us on the significance of psychosocial factors in infant development. We believe that even from these few statements it has become clear that the central psychosocial factor in the infant's life is its emotional interchange with its mother.

The particular ecological significance of this finding lies in the fact that this emotional interchange is largely governed by culturally determined mores and institutions on one hand, by social and economic conditions on the other. To give one example: marasmus was a frequent condition up to 1920 in our country, as foundling homes were still in general use. Today such conditions are difficult to find unless we look for them in countries where foundling homes are still the rule. In the United States placement in foster homes has taken the place of foundling institutions.

Less extreme conditions, however, like anaclitic depression and the others described above can be readily found at present here too. Our social institutions do not encourage the mother to spend much time with her child—at least in the population at large. Industrial civilization tends to deprive the child in early infancy of its mother. I have recently learned that in another industrial country a financial premium has been introduced for mothers who return earlier to factory work after having delivered their child. The earlier they abandon their baby the more substantial the tax reduction they receive. We can be convinced that the consequences of these socio-economic measures will make themselves felt in a distortion of these children's psychological development, although a dozen or more years must pass before the change becomes evident.

Still less consideration is given in our social institutions and in our present-day mores to the question of how to prepare the future mother's personality for motherhood. From the influence on child development exerted by mood-swings in the mother, by the mother's infantile personality or by her neurosis, it is obvious that attempts to remedy such conditions should begin early. In two papers given recently before the Annual Convention of the American Orthopsychiatric Association and at the Annual Convention of the Society for Psychosomatic Research, I have stressed that preventive psychiatry should begin as early as possible, at birth at least, but preferably before delivery.

I have attempted to show in this paper that such preventive psychiatry will have to begin by applying measures which are largely of an ecological nature. These measures will have to include a re-arrangement of legislation, making it possible for mothers to stay with their children; of education to prepare our female population for motherhood; and they will have to comprise the introduction of social psychiatry to remedy in expectant mothers psychiatric conditions apt to damage their children.

The Infantile Disorders of Hospitalism and Anaclitic Depression

Samuel R. Pinneau[5]

Pinneau, the author of this second of the three selections, bitterly attacks both the methods and the conclusions discussed by Spitz in the first article. Teachers have contact with all kinds of children, some who have not had proper mothering as well as others who have had good care in their early years. If you accept Pinneau's views, how would your teaching role with these children differ from one who accepts Spitz' conclusions?

Within the last ten years, psychogenic disturbances in infancy have received increasing recognition. In this connection Spitz, Ribble, and Fischer have especially emphasized the importance of the mother-child relationship, and their reports have been increasingly accepted and quoted by many. At least two major textbooks in general psychology have given considerable space to these authors' works. Their works receive even greater attention and acceptance in Maslow and Mittelmann's recent revision of their text for abnormal psychology, where they constitute approximately half of the chapter on disorders of infancy. A favorable reception is also apparent in articles by Geleerd, by Hartmann, Kris, and Loewenstein, and by Bowlby. . . . Less favorable, or even skeptical, appraisals may be found in reports by Jones, by Dennis, and by Orlansky. The increasing recognition given these studies and the somewhat contradictory evaluations of them indicate the need for a more complete and critical consideration of them. . . .

The Spitz papers which will be considered in this article are those which have been published in the first six volumes of *The Psychoanalytic Study of the Child*. . . .

NURSERY AND FOUNDLING HOME

Before turning to some of Spitz's broader conclusions, it would seem desirable to consider in a general way the circumstances which led to his subjects being reared in these institutions, the background of these children's parents, the physical characteristics of the institutions and the care received by the children while there.

---

[5] from **Psychological Bulletin**, 1955, 52:429-452. Reprinted by permission of the author and The American Psychological Assn.

Nursery is a penal institution for delinquent girls. In that institution, the girls who gave birth to a child while there, cared for their infants until they were approximately a year old. While the Nursery infants are generally described as being cared for by their mothers throughout the first year, it appears in a later report by Spitz that a considerable proportion of them were separated from their mothers for a period of three months beginning at 6-8 months of age, for reasons not indicated. When a child had to be separated from his mother, a pregnant girl or another mother cared for him. The mothers were supervised by a head nurse and three assistants. Despite the fact that he describes most of the mothers as socially maladjusted, feeble-minded, psychically defective, psychopathic, or criminal, Spitz reports that in Nursery the mother "gives the child everything a good mother does and, beyond that, everything else she has." The children were kept in glass-enclosed cubicles until they were six months of age, at which time they were transferred to rooms in which there were a number of children. Toys were almost always present and there was a feeling of warmth and friendliness about the institution because the mothers spent a great deal of time carrying their children, tending them, feeding them, playing with them, and chatting with each other with their babies in their arms.

In contrast to Nursery is Foundling Home. The children were taken to that institution because their mothers were unable to care for them outside of the institution. It appears that inability to support the children was the main reason that the mothers were unable to care for them and not because they were socially maladjusted or abnormal in any way. The infants were breast-fed by their mothers who were present in the institution for several months but, for reasons not given by Spitz, the mothers seem to have had little to do with the care of their children. The children in Foundling Home were cared for primarily by five to eight nurses who were described as unusually motherly, baby-loving women. Each of these nurses cared for eight or more children and, apparently as a result, the children lacked human contact most of the day. These children also lived in cubicles, but in this case they were enclosed on only three sides. Bed sheets were hung over the sides of the crib so that only rarely were the infants able to see what was going on in the ward about them. Foundling Home was poorly provided for financially as compared with Nursery and, when Spitz first went to the institution, about the only objects that the children had to play with were their own hands and feet. . . .

DIFFICULTIES INVOLVED IN AN EVALUATION OF SPITZ'S STUDIES

A number of features of Spitz's reports on his study of the Nursery and Foundling Home infants make an evaluation of his findings difficult. Spitz gives practically no information as to the time at which the studies took place or as to the location of the institutions. . . . While stating that the institutions are in two different countries in the Western Hemisphere, he does not designate the countries more specifically and, according to the magazine *Time*, has refused to do so. From his references it was possible to determine that Nursery is an institution for delinquent girls located somewhere in New York state; however, one cannot from his writings locate Foundling Home more specifically than south of the Rio Grande. The secrecy preserved concerning social and geographic areas served by these institutions is one of the factors which make it extremely difficult to evaluate the Spitz results. . . .

The Nursery sample

As noted earlier, the institution referred to as Nursery is a penal institution for delinquent girls. Some of the women were pregnant on admission. After delivery and the lying-in period, the mothers assumed the care of the infants who remained in the Nursery until the end of their first year. Spitz describes the mothers as follows:

> The mothers in Nursery came there because of a failure in social adaptation. In a large percentage

> of the cases this maladaptation is not severe, consisting mainly in sexual indiscretion at the wrong age. . . . We suspect that the difference between the mothers in this institution and other mothers of an urban background is one based on cultural attitudes of their immediate environment and on the diversities of their economic status.[6]

Apparently Spitz continued to add cases to his sample. In his first article Spitz reports that the total number in the Nursery sample was 69, in the second article 122, in a third 123, in a fourth 196. There is no indication as to the ages at which the new cases were added. It is not until the third article that the group is described as both white and colored (77 and 46 cases, respectively). Since such an obvious sampling detail was omitted, one may wonder if there were other sampling details, relevant to interpreting his findings, which were also omitted.

The Foundling Home sample

It has been indicated that children are placed in Foundling Home because their mothers are unable to provide for them. Regarding their background Spitz says:

> A certain number of the children housed have a background not much better than that of the Nursery children; but a sufficiently relevant number come from socially well-adjusted, normal mothers whose only handicap is inability to support themselves and their children (which is no sign of maladjustment in women of Latin background).[7]

While this limited amount of information makes an adequate evaluation of the children's background impossible, the mothers' inability to support their children does raise several questions. Thus, is their inability to support their children the result of being of the lowest socioeconomic group, of having limited mental abilities, or of both? Why did the responsibility of supporting the children fall to the mothers rather than to the fathers? What were the handicaps or incapacities of the fathers that made this necessary? Is it reasonable to expect that one would find in *any* foundling home that ". . . the children are of an unselected urban . . . background," as Spitz maintains for this group? . . .

According to Spitz the difference between the Nursery mothers and other mothers of an urban background is to be accounted for in terms of differences in their cultural backgrounds and in the diversities of their economic status. If true, there would appear to be no basis on which to maintain that the Foundling Home children have a superior heredity since previous considerations indicate that they come from the lowest socioeconomic group.

The behavioral differences between the two groups could represent, in various combinations, differences in racial extraction and racial mixture, negative hereditary selection, and congenital defects, as well as differences in cultural factors and economic status. It would appear that only very tentative conclusions as to the importance of the mother-child relationship should be based on differences in behavior of two groups in which there are so many other possible factors which may affect developmental data.

THE NATURE OF THE STUDY

. . . It seems to the writer that anyone who reads Spitz's articles is likely to infer from his statements that his reports are based on longitudinal data. However, there is question as to the extent to which this is true.

First let us determine if Spitz implies that a longitudinal method was used. His description of the Foundling Home children's development follows: "Their Developmental Quotient on admission is below that of our best category [a group of children from 'professional homes'] but much higher than that of the other two [the Nursery infants and a group of infants from an isolated fishing village]. The picture changes completely by the end of the first year, when their Developmental Quotient *sinks*[8] to the astonishingly low level of 72"[9] and, "By the end of the second year the Developmental Quotient *sinks*[10] to 45. . . ."[11] Elsewhere he states, "The children . . . [in Foundling Home] though starting at almost as high a level as the best of the others, had spectacularly *deteriorated*."[12, 13] He maintains that his data show the "comparison of the development in Nursery and Foundling Home."[14] This emphasis on *change* in score and on *development* would seem to imply that on the average the DQ's of the *same* group of children deteriorated from a score of over 130 during their second month to a DQ of 72 by the end of their first year, and to 45 by the end of the second year.

---

[6] Spitz and K. M. Wolf, "Autoerotism; Some Empirical Findings and Hypotheses on Three of Its Manifestations in the First Year of Life," p. 98.

[7] Spitz, "Hospitalism: An Inquiry into the Genesis of Psychiatric Conditions in Early Childhood," p. 60.

[8] Italics mine.

[9] Spitz, *op. cit.*, p. 58.

If the reader has drawn this conclusion, it will become apparent that he has made an error. . . . Rather it appears that his graphs present the average DQ of different children at each age. That this is the correct interpretation becomes evident when we consider his follow-up study written in July, 1946. He states that he *first* visited this institution two years prior to this report and he also states that the follow-up study had been going on for two years. From these statements one must conclude that the original study must have consumed very little time—so little time that he could still state after a two year follow-up study that the youngest of the children still in the study was two years of age. While he does not give this child's age as two years zero months, this is implicit since in the same sentence he gives the oldest child's age in years and months (four years and one month). Inasmuch as the time required for the original study was so brief, and inasmuch as *tests were not administered to the children in the follow-up study*, the graphs he presents for Foundling Home infants could not be based on longitudinal data. Thus it becomes obvious that conclusions regarding the development of the Foundling Home infants, as measured by the Hetzer-Wolf tests, must be restricted by the cross-sectional nature of the study. . . .

THE BEHAVIOR AND DEVELOPMENT OF SPITZ'S SUBJECTS

According to Spitz, the most prominent feature of the disorder manifested by the Foundling Home infants is severe developmental retardation as determined by the Hetzer-Wolf baby tests. The second most striking feature is a change in the child's reaction to strangers when he is between eight months and a year of age. . . . He states that the subjects ". . . show a gradual drop of the developmental quotient; this drop progresses with the progression of the disorder."[15] . . .

Let us consider now the time-location of the "decline" in DQ according to his graphs. During the second month the average DQ was approximately 131 for Foundling Home; in the fifth month approximately 88; in the sixth month approximately 76; in the seventh month approximately 75, and at a year approximately 72. Thus we see that there was a difference of approximately 59 DQ points between the children in their second month and the children at a year of age. However, 43 points of this drop occurred by the time the children were tested in their fifth month and hence while the majority of the mothers were still present. The difference between the children in their fifth month and those in their sixth month, the month in which separation from the mother was most prevalent, is 12 points. The difference between the children in their sixth month and the children at a year is only approximately four points.

The data just reviewed support Spitz's contention that marked retardation characterizes the Foundling Home infants; however, the information given by Spitz, rather than supporting his hypothesis that the retardation is due to separation of mother and child, indicates that it was in evidence before the separation. . . .

The tests used in the study

As indicated earlier, the most prominent feature of the disorder of "hospitalism" is severe developmental retardation as measured by the

---

[10] Italics mine.

[11] Spitz, *op. cit.*, p. 70.

[12] Italics mine.

[13] Spitz, *op. cit.*, p. 59.

[14] Spitz, *op. cit.*, pp. 67, 69.

[15] Spitz and Wolf, "Anaclitic Depression: An Inquiry into the Genesis of Psychiatric Conditions in Early Childhood," p. 328.

Hetzer-Wolf baby tests. It plays an equally important role in the diagnosis of anaclitic depression. . . .

Inasmuch as the baby tests were originally standardized on Viennese children, the norms may or may not be applicable to children in other cultures. . . .

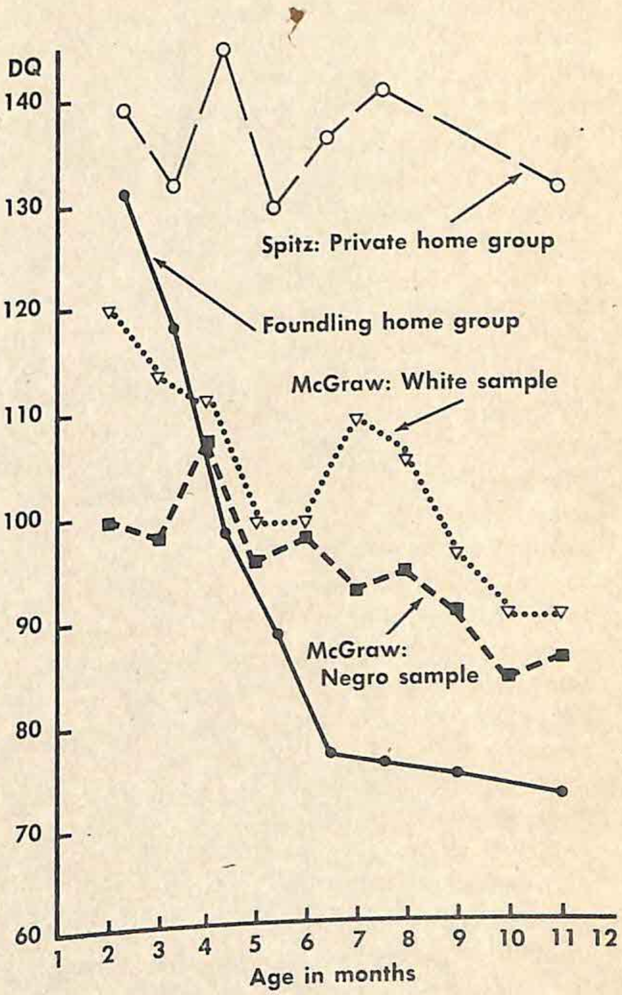
. . . In a search of the literature, three studies, all cross-sectional, were found which are relevant to the use of the test with children from other cultures. All three cast doubt on the accuracy of the norms, at least for children of other cultures. The first of these studies was carried out by McGraw in her comparative study of a group of southern white and Negro infants. . . . McGraw reports the average DQ for each age group on the Hetzer-Wolf test. These are [shown in the figure at right]. As is apparent in the figure, the average DQ tends to decrease with age for both of McGraw's groups.

The second of these studies was that carried out by Ruth Hubbard on the reliability and validity of the scale. She does not give average DQ's by month for her 78 babies ranging from 1 to 20 months, but she does conclude from her study that the scale is well worth the efforts of a thorough standardization on American infants. . . .

The third study was carried out by Hsu with Peiping babies. While there were only 26 infants in his study, the trend of his averages is much like that of McGraw. Hsu concludes, "It is apparent that the Viennese scale rated the Peiping babies too high at the lower age level and too low at the upper age level."[16]

Spitz's curve for the Foundling Home infants is included in the figure. The average DQ's of his Foundling Home infants, like the average DQ's in the studies of McGraw and Hsu, decrease with age during the first year. An analysis of this figure supports the contention of Hsu that the Viennese infant scale rates children too high in the early months and too low in the later months. It is regrettable that Spitz was apparently unaware of this problem. However, Spitz's Nursery group did not show a decline in DQ with age. . . .

MEANS OF DEVELOPMENTAL QUOTIENTS WITHIN THE FIRST YEAR FOR THE HETZER-WOLF "BABY TESTS"



Spitz also used the Hetzer-Wolf baby tests on a group of 17 children raised in private homes of white-collar workers. From a close consideration of these homes, he felt that the relationship between the child and his mother was exceptionally good. . . .

. . . It is not apparent why Spitz's findings on these children reared in private homes are so out of line with Herring's report, with the findings of Bayley that scores during early infancy have little relation to scores in the latter part of infancy, and with the findings of Bayley and Jones that scores within the first year are essentially unrelated to parents' socioeconomic, educational, and occupational levels. . . .

---

[16] E. H. Hsu, "On the Application of Viennese Infant Scale to Peiping Babies," Journal of Genetic Psychology, 1946, 69:217.

Spitz's reports would lead one to believe that a drop in score within the first year has some intrinsic value and that a low score by the age of one is of special significance. That a drop in score within the first year has little predictive value may be illustrated by considering those subjects in the Berkeley Growth Study whose scores dropped from their test at three months to the one at twelve months. The 21 subjects whose scores dropped during this interval of time had a mean Deviation IQ of 123.5 at age ten years, which is not significantly different from the mean Deviation IQ of the total Berkeley Growth Study group. . . .

If the Hetzer-Wolf tests have no greater predictive value than other infant tests (as such evidence as is available indicates), the conclusion is obvious: Even if these infants' scores were below average we would not need to be concerned, because their scores at one year will be essentially unrelated to their performance by the time they have reached school age. This is, of course, in direct contradiction to the position taken by Spitz, for he maintains that the effects of the maternal deprivation on the Foundling Home children have resulted in irreparable damage, and that such damage is reflected in the infants' test scores.

AVERAGE DEVELOPMENTAL QUOTIENTS OF SPITZ'S NURSERY SUBJECTS: A COMPARISON OF AVERAGE DQ'S OF SUBSAMPLES WITH EACH OTHER AND WITH THE TOTAL GROUP*

Age in mos.	Original group $N = 69$	Anaclitic depression group† $N = 45$	Residual sample $N = 56$	Total group‡ $N = 170$
2 - 3	98.0			116.5
3 - 4	105.0			119.0
4 - 5	110.0			110.5
5 - 6	110.0			105.0
6 - 0	*105.0*	121.5	90.2	*104.5*
6 - 7	100.0			104.0
7 - 8	110.0			109.5
7 - 9	*110.0*	98.0	116.6	*109.0*
8 - 10	110.0	91.5	117.3	107.5
10 - 12	98.0	116.0	82.0	97.5

* Italicized values were interpolated from Spitz's curves.

† These children were tested at 4 ages: 6 mos. 1 day, 7 mos. 26 days, 9 mos. 15 days, and 11 mos. 0 days.

‡ The total group consisted of 196 cases; however, Spitz's report is based on only 170 of these cases, as the other 26 had not reached the age at which autoerotic activities begin. (Spitz and Wolf, "Autoerotism; Some Empirical Findings and Hypotheses on Three of Its Manifestations in the First Year of Life," p. 87.)

The relation of "deterioration" to separation in cases of anaclitic depression

The infants who developed the syndrome of anaclitic depression in the Nursery group were separated from their mothers for a practically unbroken period of three months.[17] Spitz states that "This removal took place for unavoidable external reasons."[18] It is regrettable that he does not specify these reasons so that the infant's subsequent development can be appraised in the light of them. He reports that 45 of the 95 infants separated from their mothers show some manifestation of this syndrome and that "*No* child developed the syndrome in question whose mother was *not* removed."[19] According to his graph, the average age at which mother and child were separated was seven months. . . .

In his article on autoerotism, Spitz presents a graph apparently based on 170 of the 196 infants thus far observed in Nursery. (The reason for excluding 26 of the cases was that these infants had not yet reached the age at which autoerotic activities usually begin.) Average DQ's for this group of 170 infants were taken from his graph and are presented here in the table [at left]. This total group can be divided into three subgroups: (a) 69 infants in the original group. Average DQ's for this subgroup were obtained from the curve in his first article and are presented in the table. (b) 45 infants separated from their mothers and manifesting anaclitic depression. The graph for this group Spitz presents in his article on anaclitic depression. (As he did not indicate on how many cases the graph was based or how many were represented at each age, it can only be assumed that it was based on the 45 cases.[20]) Average DQ's for these infants are given in the table. (c) Remaining 56 cases of the 170 not accounted for by the preceding two subgroups. From the scores in the table for the total group and for the other two subsamples, the scores for this residual sample of 56 cases were determined for the last six months of the first year and are also included in the table.[21] The fluctuation of the average for these 56 children is marked.

---

[17] While Spitz maintains that race does ". . . not appear to exert demonstrable influence on the incidence of the syndrome" ("Anaclitic Depression," p. 318), it should be noted that severe depression occurred among only 9 per cent of the white children whereas it occurred in 26 per cent of the colored children.

[18] Spitz and Wolf, "Anaclitic Depression: An Inquiry into the Genesis of Psychiatric Conditions in Early Childhood," p. 319.

[19] *Ibid.*, p. 320.

The changes for this residual sample occur at the same ages as for the subjects manifesting anaclitic depression. That is, at the same age that Spitz reports a 29-point drop in score for subjects manifesting anaclitic depression as a result of their being separated from their mothers, this other subsample shows a 27-point rise in score, and at the same age that he reports a 25-point increase in score as a result of the subjects being reunited with their mothers, this other group shows a 35-point drop in score.

As was indicated earlier, it appears that 95 of the children were separated from their mothers and only 45 developed the disorder of anaclitic depression. Spitz does not give the average scores for the other 50 subjects, but if we assume that they are among the 56 subjects of the subsample referred to above, we can determine the average score for the combined group of 101 subjects. The means for the same ages are 104, 108, 106, and 97, respectively. One wonders if the reason for the low scores in the anaclitic depression group is that he assigned to it only those of the 95 cases who showed a marked drop in score. . . .

CONCLUSION

The writer does not doubt the potential advantages of maternal as compared with institutional care. An analysis of institutional care, involving procedures in a large number of institutions, would be expected to show a somewhat different pattern of benefits and of hazards than in the case of children brought up in their own homes. As yet, however, we do not have convincing evidence, based on scientifically controlled investigations, as to any of the major problems in this area.

[20] This graph may be based on more than 45 cases as he labels it "Variations of Development Quotient (Average) Under the Influence of Separation from and Reunion with Mother" ("Anaclitic Depression," p. 329), and more than this number were separated from their mothers. (According to Spitz, not all children who were separated from their mothers developed this syndrome ["Anaclitic Depression," p. 230].)

[21] In order to obtain the scores for the residual sample, at each age at which an average score was given for the anaclitic depression group the average score for the total group and for each subgroup was multiplied by the number of cases in the respective samples. At each age the difference between the product for the total sample and the sum of the products for the subsample was divided by the number of subjects in the residual group to obtain its mean score. This procedure assumes the same number of cases at each age, i.e., it weighs the mean value according to the number of cases reported in the sample.

A Critique of Studies of Infant Isolation

L. Joseph Stone[22]

This final article examines the various studies in the field of early childhood experience and attempts to evaluate the criticisms that have been leveled against them by Pinneau and others. The author explores the dichotomy between those who concern themselves with specific training for skills and those who study the dynamics of the mother-child relationship. Stone cautions against throwing out right conclusions along with faulty data or methods. As you read this selection, try to determine some of the concepts and "soundly based hunches" upon which parents and teachers should act.

During a dozen years of teaching and thinking in the field of child study, one area with which I have been concerned happens to be one in which I have myself carried out no direct, first-hand research; this area concerns the effects on personality development of early experiences, particularly in the first year or two of life. I should like to share with you some of my thinking about certain theoretical and practical implications of one aspect of this field.

The old issues of heredity and environment take on vivid and new significance when one considers, with something of the concreteness of the embryologist, what hereditary potentialities reach expression under which actual circumstances or how varying conditions may reshape or re-phrase specific hereditary potentials. Until recently, the major environmental variable considered was an over-narrow attack on the problem, namely the study of specific training for skills. The experimental contribution in this area two decades ago was the method of co-twin control: treating (or rather, training) identical twins in different ways. By the use of this method it was possible, for example, to bring reality to the concept of developmental readiness, to demonstrate the inefficacy of untimely training and to show the force of the developmental gradient, to show, for example, that just as the growth of grass pushes boulders apart, the developmental impetus in the individual produces walking when the child is ready to walk, even though he has been held down or even wrapped up in the preceding months.

The data of these studies were widely noted, were taken into account in theory building and found widespread practical application. The rate at which early abilities unfolded was believed to be consistent with the rate of later development. In education, the concept of readiness and maturation was widely exploited. Infantile adherence to the developmental time table was used as one guide—but a strict guide—to adoptive placement. From the studies, it appeared (especially as there was a tendency to generalize beyond the types of activities actually studied) that it really mattered very little what one did in the course of the first year, since development, by and large, would take care of itself. Of course it was necessary for parents to see that babies received adequate nutrition, and beyond that it was their obligation to train the infant in such a way that the responses, as they unfolded, were made to appear on appropriate rather than inappropriate signal. It was a period of simultaneous excesses both in Watsonian empiricism and Gesellian nativism somehow wrapped together.

---

[22] from Child Development, Mar. 1954, Vol. 25, No. 1, pp. 9-20. Reprinted by permission of author and publisher.

Within this structure, so firm and tight that it was virtually sound-proof, it was difficult even to hear the clamorings of the psychoanalysts and such, who seemed to feel that what was done to the child in the first year in terms of the method and the emotional context of, for example, feeding or toilet training made all kinds of a difference: or that deprivations, for instance, could make major differences in the kinds of personality that resulted and even in the kinds of activity and the rate of their development. A new sort of cultural anthropologist, too, was telling us that experiences of the infant related to differing child care practices in different cultures—even those experiences of the first year—were important. In effect, we had two child psychologies in the field for some period of time. Actually, these two psychologies did not produce the active conflict that might have been expected because they were hardly within the same universe of discourse. The theoretical and practical implications were contradictory, and it has been rather difficult to reconcile, or even to fit together, the child psychology centering around studies of motor development and learning, and the child psychology based on the dynamics of mother-child relationship and the dramas of nursing and toilet training. Even key words take on quite different meanings in the two contexts. For example, when we speak of *emotion* in the one we think of the age at which laughter appears, the specificity of stimuli to smiling or the conditioning of fears; in the other we think of emotional hungers, need for affection or the circumstances which make for insecurity.

If we try not to take sides but rather to find ways of using both kinds of contribution and attempt to move toward a unified child psychology, the determination of the actual significance of events in the first year of life is crucial but tantalizingly inaccessible experimentally—at least within the bounds of ethical and humane research. The occasional accounts of alleged feral children are teasingly suggestive but woefully undependable; reports of anthropologists are difficult to verify and it is almost impossible to pin down wholly comparable reports of different cultures, significant as each report might seem to be.

All such material, however, hints at the permanent nature of damage produced by deprivation of human stimulation in the early years of development. Cases of isolated children, like the cases of feral children, are always unsatisfactory; they are rarely adequately studied and, at best, the question always remains as to whether we are dealing with what would have been in any case a congenitally feeble-minded child. However, I want to discuss briefly two cases reported by Kingsley Davis[23, 24] because they are representative and because they raise an interesting issue. These were neglected illegitimate children cooped up in attics. Anna was a child discovered emaciated and immobile at the age of 5. By the time of her death (from apparently unrelated causes) at the age of 10, she had recovered to the point of plumpness, rather clumsy locomotion, reasonable toilet habits, and limited speech at a near two-year-old level. In short, she gave the picture of a congenitally defective child.

Davis' second case is of a child who was locked up for her first six years. Like Anna, Isabella was the victim of an irate grandfather who could not bear to see the evidences of his daughter's waywardness. This child seemed feeble-minded at first, although her Stanford-Binet mental age of 19 months and her Vineland level of two and one-half years were noticeably superior to Anna's on her emergence from her hiding place. Isabella was systematically trained. In a week she vocalized; in two months she spoke in sentences; in nine months she was reading and writing; in 16 months she had a vocabulary of 2000 words. Now: Davis puzzles over the contrast between Anna and Isabella. Could the systematic training and better care Isabella received after her release account for this? Or (as he finally seems reluctantly impelled to conclude) was Isabella to start with a more competent child? Possibly

---

[23] Kingsley Davis, "Extreme Social Isolation of a Child," American Journal of Sociology, Jan. 1940, 45:554-565.

[24] Davis, "Final Note on a Case of Extreme Isolation," American Journal of Sociology, Mar. 1947, 52:432-437.

this is the answer, but I cannot comprehend Davis ignoring a crucial difference between the two children's experiences of isolation, evident from his own account: Isabella's "mother was a deaf mute . . . and it appears that *she and* Isabella had spent most of their time *together* shut off from the rest of the mother's family."[25] (Italics mine). I can only conclude that Davis never alludes to the fact that Isabella's mother shared her "isolation" again because of his assumption that only specific training experiences are relevant. On this assumption, the presence of Isabella's mother would be unimportant because she could not speak to Isabella. But if we are thinking not of specific trainings but of the experience of relationship, do we not have a third solution to Isabella's superior recovery in terms of whatever guesses we can make about the fumblings of this mother towards Isabella in the dark and the silence?

In contrast with such reports of single cases, it was with a great sense of discovery and of the opening of vistas that about eight years ago I came upon René Spitz's exciting studies, with Katherine Wolf and others, of the devastation of the developing personality produced by inadequate mothering in the first year of life. Here was a way of dealing with the very essence of the interaction between heredity and environment; here was evidence that social stimulation is itself a biological necessity; here was a chance to determine the basic psychological conditions for the development of human personality; not the effects of specific training but the underlying nurturing conditions without which normal growth, learning and development cannot take place.

In these studies, Spitz showed that healthy, happy babies whose mothers gave them into the care of others for periods of weeks or months in the last half of the first year of life became depressed, weepy and unresponsive—only to recover their earlier bounce and to make up for the lost developmental ground immediately after the mother's return. Even more strikingly, children who had shown above-average levels of development for four or five months, whose mothers then went permanently out of their lives while the children received the best of institutional care, were severely retarded by the age of one year in every measurable aspect of development, were more prone to disease, and incapable of normal human relationships. To cite Spitz's report of the follow-up of 91 children after two years, 27 children of those observed originally had died (although in the control institution in which mothers were present there was not a single death), "in spite of good food and meticulous medical care," some of the other children could no longer be followed as they "were adopted, placed in other institutions or simply lost from sight," of the remaining 21 "only 3 had the normal weight of a 2-year-old, and only 2 attained the length normal at this age. . . . Of these 21 children, of which the youngest was 2½ years old, only 5 could walk unassisted, only 1 had a vocabulary of a dozen words, and only 1, a 4½ year-old, used sentences. On the other hand, 8 of these 21 children could neither stand nor walk, 6 could not talk at all, and 11 were limited to the use of 2 words."[26, 27] In the simplest terms: developmental quotients which had started at 124 (at about the time the mothers left the children) had declined by the end of the first year to 72; by the end of the second year to 45. In addition to such shattering verbal accounts as these, Dr. Spitz offered his motion pictures (like GRIEF) which are soul-searing in their impact, as one observes the tragic depression of the babies under temporary deprivation or sees the "human wrecks" of children between a year and a year-and-a-half of age who have been without their mothers since they were four months old. In all this, let us add at once, what is at issue is not the presence or absence of the biological mother under ordinary home conditions but the impact of institutional care when the mother is withdrawn and no consistent mothering person substitutes for her.

We owe Spitz a great deal for his ingenuity in taking advantage of existing social circumstances to set up an experiment-like research design. We must be grateful to him, too, for the dispassionate accumulation and reporting of measurements, and their cinematic documentation. We have, however, some cause for complaint (or, perhaps, merely impatience) over the lack, as yet, of measures of dispersion or of concrete hour-by-hour schedule and description of the actual contacts of institution personnel with the children, their methods of feeding the infants, etc. However, it seems appropriate at this point to accept at face value Dr. Spitz's report that the significant variable was the shift from a full-time mother to the equivalent of 1/12 or 1/15 of a mother.

---

[25] *Ibid.*, p. 436.

[26] Spitz, "The Importance of Mother-Child Relationship During the First Year of Life," **Mental Health Today, 1948,** 7:13.

[27] Spitz, "Hospitalism: A Follow-Up Report," pp. 113-117.

Although Spitz's studies were not the first in the field, and although critics have indicated flaws in his necessarily imperfect quasi-experimental procedures, his studies are nonetheless the most telling and best focused of an entire array of studies which, though made under many different circumstances and in many quarters of the globe, show remarkable convergence. Time does not permit me to do more than mention studies and reports by Levy, by Bakwin, by Goldfarb, by Anna Freud, and others. We may summarize them by saying, with Bowlby (in his recent survey of the literature for the World Health Organization) that:

> . . . the evidence is now such that it leaves no room for doubt regarding the general proposition—that the prolonged deprivation of the young child of maternal care may have grave and far-reaching effects on his character and so on the whole of his future life. [28]

I shall also have to limit myself here to the mere mention of the evidence that a degree of deprivation less than that which virtually obliterated Spitz's group seems particularly likely to result in the pattern of incapacity for human relationships which we know as the psychopathic personality. I should like, rather, to go on to another statement of Bowlby's which sets the issue for most of the rest of what I wish to say:

> Although it is a proposition exactly similar in form to those regarding the evil after-effects of rubella in foetal life or deprivation of vitamin D in infancy, there is a curious resistance to accepting it.[29]

Bowlby speaks of the resistance of psychiatrists: I am more concerned with the resistance of psychologists. I think in both cases the resistance may have been in part on the basis which Bowlby advances:

> Reluctance to accept it is, perhaps, because to do so would involve far-reaching changes in conceptions of human nature and in methods of caring for young children.[30]

I infer the resistance from the fact that the work of Spitz and others in this field has scarcely been noted in recent textbooks of child psychology; from the critical and suspicious comments that psychologists make to me informally about this work (in somewhat the tones that experimenters usually reserve for ESP or, perhaps, the Rorschach!) and on a few explicit criticisms.

Admittedly, a major flaw in the work of what I may allude to as the "psychodynamic wing" of child psychology has been the paucity of experimental evidence, the argument from clinical instances, and the great willingness of its proponents, nonetheless, to offer suggestions regarding the desirable emotional climate for child care. Actually the basis for such advice has, I think, been sounder than its critics recognize. For one thing, this is primarily a medically or psychiatrically or clinically oriented group, and it has been less concerned with marshalling and citing the evidence than a well-trained psychologist can bear. Whatever the reasons, however, there has been in the other wing of child psychology a noticeable impatience with these pronouncements. This impatience, as it bears on the problem of infantile experience, has been eloquently stated with remarkable documentation and justification in Pinneau's breathtakingly complete demolition of Margaret Ribble and all her works. I commend you his article as a kind of hydrogen-bomb perfection of destructive criticism; not a paragraph is left standing for miles around. Dr. Ribble, you will recall, is one of the upholders of Mother. Under the label of marasmus she has pointed to phenomena of developmental disruption much like those described by Spitz. In reports based on (largely unshared) clinical observations of 600 infants she finds an innate need for handling by the mother. She observes the helplessness of the newborn infant; she observes periodic mass activity and muscular tension disappearing upon suckling or close contact with the mother and finds, too, that the young infant readily goes into "functional disorganization" (irregular breathing, unstable circulation, and disturbed digestion). She makes, in fact, a number of *descriptive* statements about the appearance and behavior of the unloved baby, whose accuracy is attested by their essential agreement with descriptions by others. However, sheer descriptions are rather difficult to extricate from the physiological theories which Ribble interposes between the fact of maternal deprivation and the fact of disturbed development. We are told, for instance, that there is inadequate and unstable distribution of blood circulation for the first two or three months; that for a similar period the child experiences an inadequate oxygen supply and frequently may suffer from partial suffocation. The disturbed digestion of the baby who is not held in the arms sufficiently is said to be produced by his swallowing air and developing colic. The "tensional states" describe the infant's struggle against a tendency to cerebral anoxia.

---

[28] John Bowlby, "Maternal Care and Mental Health," World Health Organization Monograph Series, No. 2, 1951, p. 46.

[29] Bowlby, *op. cit.*, p. 46.

[30] *Ibid.*

Pinneau proceeds to square away at these and other Ribbleian doctrines and proceeds in this connection to demolish the doctrine of Mother as well. In a sustained barrage, drawing with meticulous scholarship on a bibliography of 88 psychological, pediatric, anatomical, physiological, embryological and biochemical sources he utterly disposes of Ribble's physiological explanations. He cites evidence to show that circulation becomes stable and nonfoetal in nature within the first day or two of life; he shows that the infant's oxygen supply is superb, that irregularities of breathing are of no import, that respiration is stabilized in the first few days, and that there is no basis for the notion that crying is a response to partial suffocation. With regard to digestion, he marshals reports that all infants swallow air; and completely undercuts Ribble's concept of tension in relation to the danger of neurological "functional disorganization." (Because it is irrelevant to the present discussion, I will omit his material on the relative virtues of breast and bottle feeding.) With this evidence, Pinneau rejects Ribble's thesis, a thesis that he states in these terms: "that infantile experience is of great importance in directing the development of the infant's personality *because of* instability and inadequate organization of primary body functions."[31] (Italics mine.) He rejects her view, above all, that the infant requires a long period of attentive mothering. Now, this is a very serious conclusion. Obviously, it points to the rejection not only of Ribble but of all others who, presumably out of whimsicality or sentimentality, plump for sustained mothering experience. There is every evidence that Pinneau intends just this. He cites with approval, studies in which normal development was shown in infants whose experiences of mothering, in Pinneau's words, "were carried to the opposite extreme."

Here, in the truest sense of the cliche, Pinneau is guilty of "throwing out the baby with the bath." Granted that Ribble's physiological underpinning is of the flimsiest sort, what Pinneau fails to note is its remarkable *irrelevance* to the basic question regarding the need of mothering. Actually, this was long evident and puzzling even to very sympathetic critics of Ribble on child development. For example, Kubie reviewed one of Ribble's books (*The Rights of Infants*) in 1945:

> . . . Its spirit and its purpose is profoundly right. Its emphasis on the importance of the emotional factors in child care from the very moment of birth is sorely needed as a corrective. . . . On the other hand, when one turns to the detailed physiological data which the author adduces to support her thesis, one is troubled. Sometimes the physiology is naive. Often it is dogmatic when it ought to be tentative. . . . In fact the whole picture of the relationship of sucking and respiration to anoxic states, though interesting and provocative is hardly the open and shut affair that the author describes. . . . The particular type of interdependence of one on

---

[31] Samuel R. Pinneau, "A Critique on the Articles by Margaret Ribble," Child Development, Dec. 1950, 21:203.

> the other which the author describes, making the sucking process and the learning of sucking almost a panacea to all of the infant's struggles may well turn out to be a partial truth. . . . It is somewhat puzzling therefore that from an argument, which both physiologically and psychologically must be characterized as naive, the author arrives at conclusions which in the main one must support with enthusiasm . . . [but whose substantiations are] elaborate partially-scientific rationalizations.[32]

In other words, the fact that Ribble advanced the wrong reasons ("because of instability . . . of primary body functions") for the need for mothering is scarcely justification for discarding observations validated by many others (whom Pinneau does not mention) and to conclude that her basic premise ("infantile experience is of great importance in the development of the infant personality") is wrong. Yet Pinneau's masterful critique has been used to call the entire field into question. As a matter of fact, Pinneau's scholarly care breaks down in what I regard as the crucial last section of his paper which he entitled "'Mothering' as related to the infant's development." With Pinneau, we can applaud a part of Orlansky's sweeping criticism of Ribble:

> It is unfortunate that such an influential writer has not attempted to draw a line between her empirical findings and her personal opinions (as quoted by Pinneau[33]).

Yet Pinneau himself has confused the findings on the effects of deprivation with Ribble's rationale for them. The one direct piece of evidence which he cites does *not* deal with deprivation of the sort we are here discussing, and does not deal with "the opposite extreme" of infant care. The studies by Dr. and Mrs. Dennis[34, 35] have been misused by others as well as Pinneau, largely because they were unfortunately named studies of "minimum social stimulation." Recently, in his *Readings in Child Psychology*[36] Dennis has reprinted much of the material of the earlier publications under the happier title of "Development Under Controlled Environmental Conditions." Dennis, of course, was primarily concerned with *restricted practice* of specific activities. (His study enriches our understanding with the concept of autogenous behavior—a term developed to broaden the concept of "instinctive" or "maturational" to include those responses which are, at least to some extent, learned but learned under self-imposed practice.) However, the mischievous phrase *minimum social stimulation* is, after all, in his reports and, what is worse, it has been misused by those who use Dennis second-hand.

Let us see now precisely *how* isolated the infants were; how minimal was their social stimulation—since, for our purposes, the whole story hinges on this. First, we observe that the period of most marked isolation was when we would expect it to be least injurious: after the first six months most restrictions were removed. All the evidence to date from other studies is that the *latter* part of the first year is crucial with respect to damage produced by isolation.

Second, we find that the babies, by Dennis's own statement, "were not 'isolated.'" Basically, I suppose the trouble was that the Dennises are decent human beings and could not bring themselves to impose restrictions of the sort that are apparently involved in Spitz's study or in the occasional accounts of illegitimate children hidden away in attics. Another trouble was that the Dennises were just too interested in the babies to leave them alone very much. According to their report, the babies were visited on the average of twelve times a day and one, or both, experimenters were in the room during two hours of the day. They also point out that during this period of the first half of the first year all. ". . . infants are awake but little longer than is required for feeding, bathing, and dressing." And how much attention did these babies receive? "The subjects were taken from their cribs only for feeding, bathing, cleaning, and dressing *and* for a few experiments." Moreover, "We did not smile at the subjects nor did we speak to them, romp with them, or tickle them *except* as these actions occasionally were incorporated into routine experiments. We talked to each other when in the nursery *but* did not direct our remarks to the infants."[37] (Italics mine.)

---

[32] Lawrence S. Kubie, "Margaret A. Ribble: The Rights of Infants. Comments," **The Psychoanalytic Study of the Child** (New York: International Univ., 1945), 1:415-416.

[33] Pinneau, "A Critique on the Articles by Margaret Ribble," p. 222.

[34] Wayne Dennis, "Infant Development Under Conditions of Restricted Practice and of Minimum Social Stimulation. A Preliminary Report," **Journal of Genetic Psychology,** 1938, 53:149-157.

[35] Dennis, "Infant Development Under Conditions of Restricted Practice and of Minimum Social Stimulation," **Genetic Psychology Monographs,** 1941, 23:143-189.

[36] Wayne and Marsena G. Dennis, "Development Under Controlled Environmental Conditions," in **Readings in Child Psychology,** ed. by W. Dennis (New York: Prentice-Hall, 1951).

> In addition to entrances into the room which were made in order to care for the infants and to experiment with them, several entrances per day were made solely to note down the condition and activities of the babies.[38]
>
> When either infant cried insistently, we entered the room and corrected whatever condition seemed to be the cause of the cry. We did not adhere rigidly to the feeding schedule.[39]

Incidentally, beginning the twenty-seventh week the Dennises allowed themselves to smile back at the twins and to speak to them, and even permitted themselves to fondle and play with them. This was done in such a way as not to reward the performance of any specific act. "We romped with the children, as by shaking or rolling them only when they were indifferently employed with some response that was already well established."[40] But this does throw a sidelight on the Dennises' regrettably human responsiveness to the infants.

While the twins did not receive as much actual handling as, say, Ribble would have wished, it seems evident that (unlike the "human wrecks" in Spitz's experiment) the infants did receive enough personal attention from the Dennises to respond to them early as persons. In fact, the observations stress the infants' response to the human face and a number of other specifically personal responses. While it is true that the experimenters did not fondle the babies, I am sure that their bathing, dressing and feeding were not slap-dash. I doubt whether it made much difference to the babies that the Dennises did not address their remarks to them! These restrictions, in fact, are scarcely greater than those in the first six months of the lives of an entire aseptically raised generation of American babies. Nor can I believe that the twins were much affected by the reported absence of pictures, mirrors or elaborate furnishings nor by the restriction that visitors were not to enter unless accompanied by the Dennises! Incidentally, if we are to follow—as I hope we do—the advice of the current edition of the Government's pamphlet on Infant Care, the babies had an advantage over their contemporaries who were raised in accordance with the then current edition: "No elimination training of any kind was undertaken."[41]

In one of his articles on the twins Dennis concludes, "The infant within the first year will 'grow up' of his own accord."[42] The implication is that this is true even *under conditions of minimum social stimulation.* I think we can accept this statement if we add one word: The infant within the first year will 'grow up' of his own accord under conditions of minimum *adequate* social stimulation. *This* kind of minimum the Dennises obviously supplied and, perhaps, have helped to define.

What is clear, then, is that our experimental task is to address ourselves to detailing and specifying precisely what is *adequate social stimulation* and in what respects it is adequate. Spitz, for one, has made a beginning at partialing out the time factor to show that neglect is most dangerous in the last quarter of the first year. We have some hints that optimum care preceding neglect may make for more severe acute effects and less severe chronic effects. We have some indication from Spitz and from

---

[37] Dennis, "Infant Development Under Conditions of Restricted Practice and of Minimum Social Stimulation. A Preliminary Report," p. 150.

[38] Dennis, "Infant Development Under Conditions of Restricted Practice and of Minimum Social Stimulation," p. 155.

[39] Dennis, "Infant Development Under Conditions of Restricted Practice and of Minimum Social Stimulation. A Preliminary Report," p. 150.

[40] Dennis, "Infant Development Under Conditions of Restricted Practice and of Minimum Social Stimulation," p. 152.

[41] *Ibid.*, p. 154.

[42] Dennis, "Infant Development Under Conditions of Restricted Practice and of Minimum Social Stimulation. A Preliminary Report," p. 157.

Roudinesco of the conditions under which recovery of varying extents is possible. We have indications from Anna Freud, Goldfarb, and others that institutional care has particularly pernicious and permanent effects on language and speech development. All in all, there are many indications that, as with embryological tissues, those functions which are most actively developing are most vulnerable to damage from deficiency at that moment. We need to stabilize and confirm this sort of information and we need to extend it much further. For this reason, it is fortunate that the World Health Organization has recognized this as a crucial area of study and that one of the major American university centers for research in child development is now planning to undertake systematic research in this direction. I can think of few areas of research more promising of reward than this. What precisely are the significant ingredients in the mothering relationship? Is it a specifically *humanizing* process, or to what extent is it essential in mammalian development in general? Recent studies of chimpanzees and of goats suggest some extension of this work under controlled conditions with animals. What mothering practices are particularly valuable or particularly harmful at which stages of development, and at which later stages of development will the damage or the benefit be evident (as in Bowlby's teen-aged delinquents)? Here is opportunity for physician, experimental psychologist, clinical psychologist, case worker, and sociologist to join hands in order to arrive at some of the very fundamentals of the influences which shape and misshape human personality.

I should like to add that this is an area in which we are under obligation to foster social applications of our views on personality development while they are yet in the stage of the best guess, responsibly weighed. For the sake of the human lives involved we cannot afford to wait until all the evidence is in, because in the meantime something *is* being done with these lives. At the same time that we are scientifically cautious and critical of our findings and ever eager to revise our views we must cry out against practices which soundly-based hunches suggest to be dangerous to human development and human personality. For example, we know enough already, I think, to insist on the earliest possible adoption of infants. Some adoption agencies now are moving in the direction of such placement and permitting adopted parents to take—as they are usually willing to take—some of the risks of imperfection which natural parents take on the grounds that early family care itself appears to be one of the fundamental safeguards for normal development. Likewise, we now have good reason to feel that a depressed developmental quotient in a six-month-old infant may not mean poor hereditary equipment; it may reflect deprivation: the absence—not of specific training—but of the basic stimulation by human relationship which appears to be a prerequisite to normal growth. Again, where institutional care is a necessity we know now something of where the dangers of institutionalizations lie and we must encourage . . . the provision of people, in addition to the nurses, who are free to play with and stimulate the infant and young child. . . .

Perhaps all of this sounds breathlessly new. Of course it is not. Pioneer studies like Ripin's appeared long before those I have cited in detail. If fact, Dennis mentions Herodotus' account of an attempt to rear two infants in silence several centuries B.C. I should like to close my own remarks with the account by the historian Salimbene, writing in the 13th Century of the Emperor Frederick II:

> . . . he wanted to find out what kind of speech and what manner of speech children would have when they grew up if they spoke to no one beforehand. So he bade foster mothers and nurses to suckle the children, to bathe and wash them, but in no way to prattle with them, or to speak to them, for he wanted to learn whether they would speak the Hebrew language, which was the oldest, or Greek, or Latin, or Arabic, or perhaps the language of their parents, of whom they had been born. But he laboured in vain because the children all died. For they could not live without the petting and joyful faces and loving words of their foster mothers. And so the songs are called "swaddling songs" which a woman sings while she is rocking the cradle, to put a child to sleep, and without them a child sleeps badly and has no rest.[43]

---

[43] Salimbene in A Portable Medieval Reader, ed. by James Bruce Ross and Mary Martin McLaughlin (New York: Viking, 1949), pp. 366-367.

INTERPRETING THE SELECTIONS

Erikson article

1. In our culture, child rearing has become a joint home-school effort. According to this selection, what is the proper role for the teacher to play in the total endeavor?

2. What is the central developmental problem that faces the child of kindergarten age? The fourth-grader? The high-school junior?

3. How might you help adolescents in the "struggle against identity diffusion"? What assistance can adults give to adolescents seeking a sense of identity?

4. According to this article, what is the relationship often found between juvenile delinquency and adult attitudes? How can more worthy values be fostered in youth?

Spitz, Pinneau, and Stone articles

1. To what extent do you think Pinneau's criticisms of Spitz' methods are just? For example:
a) Does he seem justified in dividing the 170 autocratic Nursery cases into three groups in the assumption that those showing anaclitic depression (subgroup b) did not include any of the "original group" (subgroup a) and that the "residual group" probably included the 50 who had not shown anaclitic depression? If his assumptions are false, how would his conclusions be affected? What about his calculations proving that subgroup c increased in DQ?
b) Is it significant, as he assumes, that the Foundlinghome children dropped more before six months than between six months and a year despite the fact that "separation from the mother was most prevalent at the sixth month," or is this comprehensible from the fact that even before "separation" the infants had contact with their mothers only to nurse and were taken care of throughout by the overworked nurses?
c) Bowlby suggests that failure of some children to develop hospitalism or anaclitic depression may be comparable to some people's natural immunity to certain diseases. If this is true, what is the implication for Pinneau's argument based on the "residual" group's failure to develop the disorder? Also, children in Nursery were taken care of by other mothers during their own mothers' absence, not by "overworked nurses" as in Foundlinghome. What other hypothesis does this suggest to explain why some children showed no anaclitic symptoms and actually may have risen in DQ?
d) If the decline in DQ for the Foundlinghome group was due simply to the inadequacy of the test, as Pinneau suggests, how would you explain the fact that by age two the Foundlinghome children had not learned to speak, walk, or feed themselves, whereas the Nursery group were normal, healthy toddlers?

2. What hypotheses other than Spitz' can you think of to explain the rise in DQ of the anaclitic group after reunion with their mothers? How could you test them? What hypotheses other than Spitz' could account for the behavioral symptoms Spitz describes (weepy, dazed, apprehensive, etc.)?

3. Taking these three articles together, what conclusions do you think can safely be drawn about the mother-child relationship during the first year? What questions are still unsettled? Pick one and tell how you would set up a study to investigate it.

4. For a review of research on (a) later behavior of children deprived of mothering in infancy and (b) records of early mothering of adolescents showing certain types of behavior problems, see John Bowlby, **World Health Organization Monograph Series, No. 2, 1951.**

4

THE CHILD BEFORE SCHOOL

S.C.E.R.T., West Bengal
Library
Calcutta
25/3, B. C. Road

An Application to Education of the Needs Theory

Louis E. Raths[1]

To be able to recognize the various ways in which the emotional frustrations of children may be manifested is an important part of the teacher's total responsibility. The following selection presents a description of four types of behavior—chronic aggression, submission, withdrawal, and psychosomatic illness—that most teachers encounter at one time or another. The importance of meeting children's emotional needs in the day-to-day classroom situation is described in detail in the bulletin from which this excerpt is taken. You will find reading the entire bulletin a worthwhile experience.

Freud, Dollard and others have formulated what is commonly known as the "Frustration-Aggression" hypothesis. In short, this hypothesis tells us that aggression follows frustration. A considerable body of data tending to support this hypothesis has existed for some time, and, incidentally, we daily see all around us behavior which we think is the result of frustration.

Building upon the Dollard hypothesis, we may go farther and say that there are three additional "gross" manifestations of behavior which are indicative of frustration. In many instances, when children are frequently, almost continually, submissive, we may find that some of their emotional needs are not being met. Likewise, when a child frequently tends to withdraw from the group, from contact with others, it suggests that some deep-seated emotional needs are not being met. In recent years, much research has been done in the field of Psychosomatic Medicine. The studies of Dunbar and others indicate that many symptoms of physical illness have emotional concomitants. This, then, is our fourth category of "gross" manifestations of behavior: that of Psychosomatic Symptoms of Illness.

To sum up: we believe that frustration of emotional needs tends to show itself in four general types of behaviors; i.e., Aggression, Submission, Withdrawing, and Psychosomatic Symptoms of Illness. Note we have not stated that anyone who is frustrated acts in these four ways, but rather that anyone who acts in these four ways may be frustrated.

---

[1] from **An Application to Education of the Needs Theory** (Bronxville, N.Y.: Modern Education Service, 1949). Reprinted by permission of author and publisher. Copies of the bulletin are available from the publisher.

AGGRESSIVE BEHAVIOR

Teachers must be especially sensitive to the fact that any one of the following behaviors is not by itself indicative of aggression or of an unmet need. All children display aggression in some form or another and at various times. We are here trying to point up the behavior of a child who is more or less characteristically aggressive. We are looking for children who tend on many occasions and in various situations to show behaviors of the kind described below. We realize, of course, that some aggression is constructively channeled through the very work that we do. Some children have pent-up energy which they expend in ordinary games and sports, or in scholastic competency and thus release this aggression in a way which is not harmful to other people or to property as such or to themselves. For our present purposes, attention must be focused on a rather consistent pattern of aggressive activities; on the child who more or less habitually tends to engage in the acts which we are here calling aggressive. We should note again that where these acts seem to appear rather continually and with more than mild intensity, the teacher is immediately warned that perhaps some emotional needs are not being met. The behavior as such does not point to any single or particular need. The behavior is of a "gross" kind; it merely serves to alert the sensitive teacher to the fact that children who behave in this fashion are children who may be troubled inwardly.

Some children reveal aggression in their language; in name-calling, swearing, loud yelling, domineering talk, talk of what they are going to do to some other people, statements indicating resentment toward authority: adults, parents, agemates, brothers and sisters, minority groups. . . .

Aggression is often directed toward property, e.g., cutting desks or writing on them or breaking chairs or writing on walls. Aggressive children might even carry on what seems to be a planned program of waste of school property, their own property or the property of others. Letting the air out of, or puncturing automobile tires is another form of aggression directed against property. Some children soil or tear their own clothing or the clothing of others. The movements of some aggressive children might be described as quick, decisive, jerky. Sometimes for no very obvious reason they tease other children or take things away from them or in other ways use people as scapegoats. Sometimes they show extreme cruelty to animals.

SUBMISSIVE BEHAVIOR

Here again we want to warn the reader that no child would engage in all of the following behaviors. One or two or even three of these behaviors are not necessarily indicative of chronic submissiveness. Studies have shown that some children who have been aggressive in a situation where they were frustrated have met a rather severe kind of punishment and as a result these children seem to have lost their backbone. They seem to have little sense of direction for themselves. They seem to be looking to other people for suggestions as to what to do and when to do it and where to do it and when to stop doing it. If we were to look at the behavior indulged in by the child who is submissive we are apt to find that he has an unusual preference for old and familiar things; he is very timid about trying new things and is extremely hesitant in trying out new ideas. He is often afraid to meet strange people and has serious difficulty in making his own decisions or choices. He rarely protests when he is pushed around and rarely fights back when picked on by other people. He seems to be quite easily frightened. He yields to authority with little hesitation or protest and rarely, if ever, disagrees with group opinion. Quite often he lets you know that he feels that the other kids know much more and can do much better than he can. He requires careful and specific directions very often in order to direct his behavior. Often he is afraid to play rough games. Sometimes he cries rather easily and once in a while we have the youngster who whines a lot. Amongst children he sometimes is referred to as a "sissy" or a "goody-goody." He seems to be afraid of making mistakes. His feelings are often hurt. He doesn't engage in competition as a rule and seems to show considerable dependence on other people. The submissive child is very often unobtrusive and undemanding. He is frequently imitative. He tends to take the path of least resistance. He seldom ventures to volunteer in class and is very timid in reporting before groups.

. . . He is criticized a great deal and is sometimes picked on and teased by the others. If any promises are made to a child of this sort it is not uncommon to find the promises honored in the breach. Others tend to expect a lot of obedience from him and after a while one often hears other children nagging him or mimicking him or exploiting him excessively.

. . . The submissive child may try to win his way by flattery, by toadying to others, by manipulation of people. He sometimes gets his way by wheedling, begging, or crying. . . .

If we were to observe the submissive child for certain physical symptoms we probably would notice that he blushes easily and rather often. We might find that he bites his nails or sucks his thumb or covers his mouth with his hand when speaking. We might find some tenseness in the body, some rigidity when he is called upon to do something before the group. We may see a certain twitching of the fingers or a blinking of the eyes. We might see a child who does a lot of fiddling with his fingers or his hands or his clothes. In all of these ways we see evidences of a child who has become submissive in his relationships to other people. . . .

WITHDRAWING TYPES OF BEHAVIOR

There are some children who choose neither aggressiveness nor submissiveness as ways of expressing their frustration. Instead, they tend toward a solitary type of behavior, to withdraw from society. These children tend to shun contact with their fellows. Here we have children who very often play by themselves. They are not chosen by the group as members of committees. They are not chosen to be on teams. They are not chosen to be in games with children. Very often these children walk to school alone or walk home alone. When the schedule of the school calls for a period of recess, we often find children of the withdrawing type remaining in their seats. Sometimes if the condition in the school directs them to go outside they will dawdle for a long time within the school. It will take them a long time to get their desks in shape before they can go out for recess. Or they might go to the toilet and linger there for a while and thus make it impossible to have any kind of lengthy contact with other children on the playground. Sometimes these children take a seat in the classroom that isolates them from others. Sometimes we see them hovering on the "fringe" of group activities but declining to participate. . . .

Sometimes we find the withdrawing child engaging in a specialty of one kind or another; he or she will spend an enormous amount of time building model airplanes or drawing scenes that are complex and difficult, or in fashioning elaborate costumes for dolls. As he spends more and more time at such an activity that isolates him from others, he is apt to develop special competence and skills in the thing on which he is concentrating. It is not uncommon to find teachers and parents too, who commend the child so highly for this specialty that it motivates him to spend more time at the skill and he is actually encouraged to stay away from the group more even than is his wont. . . .

SYMPTOMS OF ILLNESS

Some children, when frustrated, tend to brood and worry and to wind up having some kind of physical impairment. These children are said to have psychosomatic illnesses. If we study carefully the work of Flanders Dunbar and of Alexander and Saul, we will find that these psychosomatic disorders are of several kinds. In this classification, we have children who have skin diseases: eczema, rashes, and other symptoms that seem to be associated with allergies. We have children who seem to show symptoms of cardiovascular disturbances. These children show signs of extreme hyper-tension and of palpitations at times. We have children with arthritis and forms of rheumatism. In a kind of miscellaneous grouping we have children with migraine headaches, with recurrent back or body pains, who have disturbances of the kidneys or bowels. We also may have students in our schools who reflect disturbances of the respiratory tract. . . . In another group we may include those children with various speech defects: those who stutter and stammer and those who lisp. . . . Children who have the various symptoms of this kind seem to be not ill enough to be under a doctor's care in the home or in a hospital; on the other hand they don't seem to be well enough really to get along with their agemates and to carry on the learning process. It should be said again that, as a general rule, no child has a large number of these symptoms. Moreover, it can be said of every child that at one time or another some such symptoms as these are present in his behavior. Again we are trying to picture the child who has a more or less *chronic* condition of this kind.

[Raths then goes on to list the following emotional needs, describing behavior and attitudes characteristic of children for whom each need is not being met.

1. the need for belonging
2. the need for achievement
3. the need for economic security
4. the need for freedom from fear
5. the need for love and affection
6. the need to be free from intense feelings of guilt
7. the need for sharing and self-respect
8. the need to understand]

Backgrounds of Well-Adjusted Children

Grace Langdon and Irving Stout[2]

A number of studies have been made on the relationship between certain types of parental behavior and the traits developed by children. Most such studies trace the backgrounds of disturbed children, and they find what one might expect in family relationships; but the sample is selective and one cannot simply assume that for healthy direction all the family conditions should be reversed.

What would you expect to find if you took the "well-adjusted" school children and traced back to assess the family constellations from which they came? The study below, based on observations of and discussions with well-adjusted children and their parents, finds that although there is great diversity in parental behavior, there is one common characteristic in the parent-child relationship which is predictive of healthy development.

THE STUDIES

The two studies on which the book is based were made during 1948-49 and 1949-50. The first was made by eight graduate students at Milwaukee State Teachers College, Milwaukee, Wisconsin,[3] and the second by forty-five graduate students at New York University, New York

---

[2] from **These Well-Adjusted Children** (New York: Day). Copyright 1951 by Grace Langdon and Irving W. Stout. Reprinted by permission of authors and publisher.

[3] The Milwaukee study was reported in the **Journal of Educational Sociology,** Apr. 1950, Vol. 23, No. 8.

City. The Milwaukee students were all teachers and some of them were parents. They were concerned with learning everything possible about what best helps children to be well adjusted. It seemed to them that parents who had brought up well-adjusted children could tell a great deal that would be helpful both to teachers and to other parents. So they decided to interview parents of a group of well-adjusted children and to ask them to tell what in their home life helped their children to be well adjusted. The New York students followed the plan worked out by the Milwaukee group. [p. 3]

HOW THE CHILDREN WERE SELECTED

The first step was to decide what was meant by "well-adjusted children." Eight points were agreed upon as describing good adjustment. These were put into question form and it was assumed that if the answer to each of the questions was "yes" for a given child that child could safely be designated as well adjusted. These are the questions:

1. Does he play well with other children?
2. Does he appear to be a happy child?
3. Does he have reasonable control over his emotions?
4. Can he be depended upon?
5. Is he achieving somewhere near his capacity?
6. Is he able to think for himself?
7. Is he kind and helpful to teachers and classmates?
8. Is he liked and respected by his peers?

It was decided that school principals and teachers would be the best ones to choose the children, since they were likely to be impartial and unbiased in judgment. Accordingly principals in the public schools of Milwaukee County, Wisconsin, were asked to make a selection of not more than ten children from each school. They were free to choose any child from 6 to 21, boy or girl, in any grade, the only requirement being that the answer to each of the eight questions be "yes." There was opportunity for great variety in selection since Milwaukee County includes the city of Milwaukee, suburban towns, outlying villages, and some rural areas. . . .

In selecting the children for the New York study the same eight points were used. Each of the forty-five students selected three children in his own community. These students came from various sections of Greater New York, from many Long Island communities, from points in New Jersey, upstate New York, Connecticut, Pennsylvania, and Maryland, thus giving a wide area for selection. . . . [p. 4]

There were 158 children from the Milwaukee area and 103 from the New York area and its surrounding communities. The New York group included a few 5-year-olds going to kindergarten. In recounting what the parents said the two groups are combined making the total 261. . . .

No effort was made to have an equal number of boys and girls, but as it came out 131 were boys and 130 were girls. The youngest are nine 5-year-old kindergartners, and the oldest a 21-year-old college student. . . . [p. 5]

The accounts reveal a picture of busy, alert, active children, doing always acceptable, sometimes outstanding work in the school subjects and likewise contributing to school life in all sorts of other ways and besides that, carrying on many activities not directly related to school.

These achievements were not without their difficulties, too. There was a 12-year-old, overweight to the point of its being hard for him to keep up with the others in athletics, but, as told by the father, "with maximum determination he has made it, and plays ball, albeit a little lumberingly." And there was a 15-year-old boy who has made a complete recovery from polio, which he had at 11, and who makes top grades, holds an executive position in the student organization, plays the piano and cello, and hopes to study medicine. Some of the children wore glasses, one used a hearing aid, a few were described as overweight, some underweight, several were left handed. One was said to have a spastic condition, another a heart lesion, another to be a diabetic. Measles, chicken pox, mumps, etc. are mentioned as interfering with school now and then, but for the most part the children were described as "healthy as can be," "nothing much ever the matter," "always well except for little upsets," "perfect health," and "never has had a sick day."

As described by their teachers and parents these are children one would enjoy knowing, "full of fun," "always bubbling over," "ready and willing to help," "dependable, trustworthy, true to his promises," "sees things to do and does them," "always thoughtful, never condemns anyone," "such fun to have around," "serious but learning to joke," "always on the go, always doing something," "usually humming a little singsong," "loves to tease, affectionate, full of fun," "sometimes good, sometimes bad, always lovable," "holds her own, normal inclination to be naughty," "always ready to help when I need it," "sometimes naughty, but always interesting," "never without an answer," "all any mother could ask," and so on and on, different as can be, judging from the accounts; each a distinct individual, but all well adjusted. [pp. 8-9]

THE INTERVIEWS

When the parents of the children selected were asked if they would be willing to let the interviewers come to talk with them none refused. In fact they seemed glad to do it. One said, "It is a pleasure to be able to talk about how nice my child is without being thought a bore."

The interviews were friendly, informal visits. Each interviewer made individual arrangements with the families on his list. Usually the time was arranged so that both parents could be present. . . . [p. 11]

As one reads the parent accounts, the statements made seem to fall into two main groups, those about the things that were done, and those about the way the parents felt: the way they felt about the child, about themselves, and about their relationships. Among the procedures, the things that were done, there is such a diversity as one can hardly imagine. For example, discipline ranges all the way from "They do what I say or else," to "We want them to *want* to do what is right." Allowances range all the way from the 15-year-old who has none because "he wouldn't know what to do with it anyway" to the 6-year-old who does have one because "he needs to learn how to use money."

Procedures were described which are so commonly approved that some readers may have the comfortable feeling, "here is the answer." But there were also procedures which some will question and others heartily disapprove. Yet, from them all there came children agreed upon to be well adjusted.

As the story of what the parents said unfolds there will emerge more and more differences such as those already mentioned. And with the differences will be an outstanding similarity which is highly significant in answering the question, "What in the home life of these children accounts for their good adjustment?" [p. 12]

Over and over the parents spoke of their joy in being parents. "I love to talk about my children and I love to have them." "I could go on and on they are such nice youngsters. We are not ashamed to take them anywhere." "It's such fun telling about our children. They are here because we wanted them, and they know it." [p. 22]

"And they needed discipline." In one way or another all of the parents of these children echoed that statement "and they needed discipline." On that one point there was complete agreement, but from there on any marked agreement on the matter of discipline came to an end. One mother speaking for herself and her husband might have been speaking for all when she said, *"It is very necessary but our ideas about it vary."*

The father in this family had just said, "I have to be very strict with her [6] because her mother is just the opposite and I believe in good discipline as the way to train a child." The mother went on to show where their ideas were at variance. She told how she wanted to "make her understand what is asked and get her to do it willingly." As she sees it the father "makes her cry too often without her knowing what it is he wants." To this he replied, "To my way of thinking being easy on a child is no way to teach them life." And then he said, "With all my ranting about discipline I'm an old softy; we both make her feel we love her; my greatest joy is doing things for her and my wife."

Comments such as these within a family give a glimpse of how two parents, each an individual, each with different background, each with his own ideas, bring their differences as well as their agreements to the rearing of their children. There were many differences among the parents of these 261 and differences from family to family on what discipline really meant, on why they felt it to be necessary, on how they carried it out.

One father said, "As long as they are in this house and until they are 21 they are going to mind. I require them to do the things we think best and yet there is free discussion." And the mother seemed to be in full agreement, adding, "I get fed up with these parents who don't make their children mind. I never would tolerate any sassiness, swearing, and the like." Then they told of the family life with the boy 12 and his brother 15—of reading together, of church activities, of the boys' freedom to bring any problem to either parent, of rivalry between the boys but family closeness nevertheless, and, said the mother, "We just love them to pieces"—a picture of mingled sternness and gentleness as these parents work out their ideas of discipline. [pp. 33-34]

Many other parents told of their belief in the necessity for parents deciding what should be done, then seeing to it that it is done. Some felt that with strict obedience to parental authority in the early years there could be more freedom later. . . .

Some parents felt that there should be discipline with limits and restrictions but freedom too. . . . [p. 35]

Discipline with the purpose of helping children to know what to do and to think for themselves was mentioned in different ways by several parents. . . . [p. 37]

Other parents felt that discipline is something coming out of everyday living itself rather than something parents do to their children. "By example we discipline," one father summed it up briefly, "they learn by making mistakes—we all do." . . . [pp. 37-38]

Still others put emphasis on *feelings* as an important point in discipline. The father of an 11-year-old boy, the youngest of seven, said, "We believe in harmony in the home and want everyone to co-operate and they are ready. We are firm when we need to be and when we do have to say 'no' it's final but there's never much real discipline trouble." The mother of a girl 17 said, "I've never been sorry we're not heavy-handed parents. We decided in the beginning that the best way to discipline was to teach mutual love and respect and we've been glad we did." Another, speaking of her 5-year-old said, "We believe in patience instead of discipline. I mean we shouldn't expect too much. Look how long we've been in the world and we're not perfect ourselves." Then she said that they try to show him what is right and correct him when it is necessary. "But," she said, "we kid a lot and we certainly do love them, and they're willing to do right when they know what it is." Another said, "We haven't thought much about discipline. When you love them dearly, let them know it everyday and play with them, then there is not much need for discipline—they want to do what is right." And later she said, "We try to let them see us trying to do the right thing too." [p. 38]

In the opinion of these parents attention to daily routine and the whole matter of responsibilities played a considerable part in the good adjustment of the children, but the routines varied and the responsibilities differed. The mother in one home, after telling of their irregular mealtimes made necessary by the father's work and hers, said, "I know lots of people would think we are pretty irregular but *different ways of living fit different families.*"

And the things different parents told showed how true this statement was. Some families had breakfast together. Others ate as they got up. Some made it a point to eat all meals of the day together. Others met for meals as a family only on the week ends. For some bedtime came at a specified hour which was changed only on the most special occasions. For others it varied

> with "whatever happens to be going on." Some had definite ideas about the importance of regular schedules and others had just as definite ones about the importance of flexible ones. . . . [pp. 55-56]

> Parents who are themselves trying to bring up well-adjusted children and who wonder now and again how much responsibility to give, how to get homework done, what to do about practicing, may find some comfort in knowing that the parents of these children wondered too.
>
> Some tried one way to get things done and then, finding that it did not work well, tried another. Some were not sure that they had found the best way. Some said that what worked perfectly with another child in the family did not work with this one at all. Obviously, they were working out the ways of bringing up their children as they went along. They had ideas to guide them, things they hoped to accomplish, things that seemed important to them, but as one father put it, "We've certainly changed our minds times enough to keep from getting into a rut because he [13] is so often different from what we think he's going to be and I'm glad he is."
>
> So far as responsibilities were concerned, these 261 children for the most part made their own beds, hung up their clothes (at least they were supposed to), dried the dishes, sometimes washed them, ran errands, and took more or less responsibility for keeping themselves "reasonably cleaned up," as the father of a 10-year-old put it. Some mowed the lawn, fed the family pets, emptied waste baskets and garbage cans, polished their own shoes and sometimes dad's or mother's, helped with the ironing, sometimes pressed their own suits, helped in the care of the younger children, dusted, besides helping with the "odds and ends" which as another father said "come up in any family." [pp. 61-62]

> Rules seem to have been a necessary accompaniment to the taking of responsibility. There were many in some families, few in others, and always variations from family to family. Some were made by the parents, some by parents and children together, some, as a mother said, "just seemed to happen with nobody really planning them," or "they came naturally out of things that happened." Often penalties were attached in case of infraction of rules but sometimes these "were decided upon as befitted the crime." [pp. 65-66]

> Some of the children had allowances; some did not. Some who did could spend it all as they pleased; others had to meet certain expenses first. Some were required to give full accounting; others none. Some earned money and could spend their earnings as they pleased. Others had to save all or part of what they earned, sometimes for some desired object or more often for college. Sometimes allowances were stopped when earning began; sometimes they were continued in whole or in part. The allowance of one 17-year-old boy was continued as long as his earnings from a well-paid part-time job were banked for college. [p. 68]

> Some children were paid for doing certain home chores. Some were not. And the parents had definite reasons for whichever course they followed, for example:
>
> > He [10] definitely is not paid for doing things around the house. I don't believe in it. He might get something as a reward but he wouldn't be paid for it.
> >
> > I [mother] feel no one gets anything for nothing. Money and all must be earned. We made a list together of chores to be done and he [13] gets the equivalent of what we agree is right.
> >
> > We pay for things that we would have to pay someone else for such as mowing the lawn or baby-sitting but dishes, errands, and the like are part of the family job and he [13] does them just as his dad and I do. . . . [p. 69]

> There was a great deal of acting together as a family group. This was no accident. The parents wanted it to be that way, because they believed that it was important that it *should* be, and planned so that it *would* be. [p. 75]

> Families had their "fun together" in all sorts of different ways. Some had it in baseball, football, skating, skiing; some had it in concerts, sight-seeing trips, trips to historical spots; some in picnicking, boating, sailing, fishing, swimming, hunting; some in games, reading, visiting

relatives, and friends. Perhaps for many it was as one mother put it, "I even love doing things I don't like to do just for the fun of our all doing it together."

In some homes definite times were set aside as family time. In one where there is a boy 12 and his brother 9, Sunday is family day and "it is planned in advance and the children are in on the planning and their choices are respected." The parents told of fishing and golfing together and of making their own slides for their movie projector as a family hobby. In a number of homes Friday night is family night. [pp. 78-79]

There were some homes, though, where not much was said about fun together. There were two where the fathers' habitual drinking kept the families from doing very much together. In one instance it was said, "But he loves the child devotedly." In the other, "He's a good father anyway." There were some homes where the father was "too tired all of the time for much fun," and one where both father and mother were "too busy to go out much." But the latter said, "We all talk together a good deal," and "read together some," and "listen to the radio—that much we do." There were a few homes where mother and children were the family, or mother, grandparents, and children. In two where the mother had died, father and children were the family. And there was one where both parents were gone and grandmother and children made up the family. Even so there was the doing together as a family, and as the father in one of the motherless homes said, *"Meeting problems can be a family affair."* [pp. 79-80]

Often parents spoke of guidance given to their children's interests even while they tried to leave them free to "be themselves and have ideas of their own." Perhaps there was no greater variance in that guidance than in the matter of comics which were mentioned in practically every account. With some children there was little or no interest in comics, but with most there seemed to be great interest. Parents from family to family felt very differently about it, and they varied in what they said they did.

Some forbade comics altogether, some censored them, some "let them take their course," some tried to substitute other things, and some "paid no special attention to them." [p. 85]

Some parents told of religion being a very vital part of their everyday living. Some said that it played little part, if any. Some spoke more or less negatively about it and some were indifferent. In some homes one parent was interested and the other not. There were several marriages of mixed religious belief, Catholic-Protestant or Christian-Jewish. [p. 102]

Again and again the parents told of differences in temperament, in outlook, in interests, differences in ways of doing and differences among their children, but of mutual love and respect notwithstanding. . . . [p. 112]

. . . Parents told of not always agreeing—in fact of often disagreeing—but always there was the "if" as there was with the father first quoted who said, "You do not always have to agree if . . ." That father finished his sentence with "if you know you love each other." Others spoke of respect, of understanding, of enjoyment of each other as the "if." There was mention in one account of "a good deal of friction because he often tries to strike the boy [13] and that I will not allow." But the mother said, "He loves the children. It's just that he's hasty and quick tempered and tired most of the time." There is financial strain and the father sees little of the family because of his work hours. The family eats together only on Sunday but makes a point of doing it then. Some of the disagreements sounded like those in the family where the father said, "Mama doesn't always see as clearly as I do." The mother replied, "And vice versa." . . . [p. 115]

"But most important of all is loving them and letting them know it, thinking of them as people and treating them so, appreciating what they do and trusting them and telling them so, and above all letting them know they are wanted." It was the father of a 6-year-old who finished his sentence with those four statements.

All of the parents expressed the same thoughts in individual ways. In every account, without a single exception, it was underlying feelings such as these which the parents named as "most important of all" as they told what they believed had brought about the good adjustment of their children. . . . [p. 157]

As thought turns back over what the parents said there is a vivid impression of happy, wholesome, everyday family living. It is encouraging that the parents of these well-adjusted children claimed no superior knowledge about how to bring them up, that they presented no one way of doing it as explaining their good adjustment. The very diversity of bringing-up patterns, all of them resulting in good adjustment, suggests that there *is* no one way and gives added meaning to the parent statements: "Different ways of living fit different families." "You have to be the kind of parent you can be."

There is something very reassuring in the unassuming naturalness with which the parents told of what they did and in the evident confidence with which they did it. The things they told about were everyday things familiar to everyone. . . .

The affection and respect and admiration with which the parents spoke of their children and the way they dwelt on their good points are heart-warming to remember. They were not unmindful of their faults, and the correction of these and the discipline needed were part of the story; but it was the children's good points, their strength, that were consistently held up for attention. [pp. 175-176]

The Emergence of Fun Morality

Martha Wolfenstein[4]

The change in patterns in the parental role is the theme of this article. The author traces the differences in philosophy evident in the government pamphlets on infant care over the past several decades. These changes in child-rearing "fashions" lead us to think about the reasons behind the changes and also to speculate on whether the actual handling of infants in the important dimensions does change very much. Do mothers behave by the book? For you as a teacher, the most interesting speculations revolve around the possible later effects of different approaches to child rearing. What school-related behavior might accompany given styles of parent behavior?

A recent development in American culture is the emergence of what we may call "fun morality." Here fun, from having been suspect if not taboo, has tended to become obligatory. Instead of feeling guilty for having too much fun, one is inclined to feel ashamed if one does not have enough. Boundaries formerly maintained between play and work break down. Amusements infiltrate into the sphere of work, while in play self-estimates of achievement become prominent. This development appears to be at marked variance with an older, puritan ethic, although as we shall see the two are related.

---

[4] from Journal of Social Issues, 1951, 7:15-25. Reprinted by permission of author and publisher.

As the basis for the discussion of fun morality I shall present an analysis of ideas of child training of the past thirty-five years. In these one can observe a changing conception of human impulses and a related altered evaluation of play and fun which afford clues to the transformation of moral outlook. The changing ideas in child training will be taken as phenomena of American culture, as part of a larger set of adult attitudes. This paper will consist, then, of two parts: first, an analysis of a selected sample of child training literature, and second some hypotheses about a moral trend which it seems to illustrate.

CHANGING THEMES IN INFANT CARE

The ideas on child training which I shall present are taken from the publications of the United States Department of Labor Children's Bureau. These publications probably express at any given time a major body of specialized opinion in the field, though how far they are representative would have to be determined by further study of other publications. In taking these publications as indicative of certain changing attitudes, I leave undetermined to what extent these attitudes are diffused among parents and also to what extent parents' actual behavior with their children conforms to these ideas. Both these topics would require further research.

The innovations in child training ideas of the past few decades may readily be related to developments in psychological research and theory (notably behaviorism, Gesell's norms of motor development, and psychoanalysis). However, the occurrence and particularly the diffusion of certain psychological ideas at certain periods is probably related to the larger cultural context. A careful study of the ways in which psychological theories have been adapted for parent guidance and other pedagogical purposes would show that a decided selection is made from among the range of available theories, some points being overstressed, others omitted, and so on.

The *Infant Care* bulletin of the Children's Bureau, the changing contents of which I shall analyze, was first issued in 1914. The various editions fall into three main groupings: 1914 and 1921, 1929 and 1938, 1942 and 1945 (i.e., the most drastic revisions occurred in 1929 and 1942).[5] For the present purpose I shall mainly contrast the two ends of the series, comparing the 1914 edition with those of 1942 and 1945 (the two latter are practically identical), and skipping over the middle period. Thus I shall attempt to highlight the extent of the change rather than to detail the intermediate stages (which in any case show some complicated discontinuities).

As the infant embodies unmodified impulses, the conception of his nature is a useful index of the way in which the impulsive side of human nature generally is regarded. The conception of the child's basic impulses has undergone an extreme transformation from 1914 to the 1940's. At the earlier date, the infant appeared to be endowed with strong and dangerous impulses. These were notably autoerotic, masturbatory and thumb-sucking. The child is described as "rebelling fiercely" if these impulses are interfered with. The impulses "easily grow beyond control" and are harmful in the extreme: "children are sometimes wrecked for life." The baby may achieve the dangerous pleasures to which his nature disposes him by his own movements or may be seduced into them by being given pacifiers to suck or having his genitals stroked by the nurse. The mother must be ceaselessly vigilant; she must wage a relentless battle against the child's sinful nature. She is told that masturbation "must be eradicated . . . treatment consists in mechanical restraints." The child should have his feet tied to opposite sides of the crib so that he cannot rub his thighs together; his nightgown sleeves should be pinned to the bed so that he cannot touch himself. Similarly for thumb-sucking, "the sleeve may be pinned or sewed down over the fingers of the offending hand for several days and nights," or a patent cuff may be used which holds the elbow stiff. The mother's zeal against thumb-sucking is assumed to be so great that she is reminded to allow the child to have his hands free some of the time so that he may develop legitimate manual skills; "but with the approach of sleeping time the hand must be covered." The image of the child at this period is that he is centripetal, tending to get pleasure from his own body. Thus he must be bound down with arms and legs spread out to prevent self-stimulation.

---

[5] My analysis is based on the six editions indicated. I was unable to obtain those of 1926 and 1940.

In contrast to this we find in 1942-1945 that the baby has been transformed into almost complete harmlessness. The intense and concentrated impulses of the past have disappeared. Drives towards erotic pleasure (and also towards domination, which was stressed in 1929-1938) have become weak and incidental. Instead we find impulses of a much more diffuse and moderate character. The baby is interested in exploring his world. If he happens to put his thumb in his mouth, or to touch his genitals, these are merely incidents, and unimportant ones at that, in his over-all exploratory progress. The erogenous zones do not have the focal attraction which they did in 1914, and the baby easily passes beyond them to other areas of presumably equal interest. "The baby will not spend much time handling his genitals if he has other interesting things to do." This infant explorer is centrifugal as the earlier erotic infant was centripetal. Everything amuses him, nothing is excessively exciting.

The mother in this recent period is told how to regard autoerotic incidents: "Babies want to handle and investigate everything that they can see and reach. When a baby discovers his genital organs he will play with them. . . . A wise mother will not be concerned about this." As against the older method of tying the child hand and foot, the mother is now told: "See that he has a toy to play with and he will not need to use his body as a plaything." The genitals are merely a resource which the child is thrown back on if he does not have a toy. Similarly with thumb-sucking: "A baby explores everything [within] his reach. He looks at a new object, feels it, squeezes it, and almost always puts it in his mouth." Thus again what was formerly a "fierce" pleasure has become an unimportant incident in the exploration of the world. Where formerly the mother was to exercise a ceaseless vigilance, removing the thumb from the child's mouth as often as he put it in, now she is told not to make a fuss. "As he grows older other interests will take the place of sucking." (Incidentally this unconcerned attitude towards thumb-sucking is a relatively late development. The 1938 edition still had an illustration of a stiff cuff which could be put on the infant at night to prevent his bending his elbow to get his fingers to his mouth. The attitude towards masturbation relaxed earlier, diversion having been substituted for mechanical restraints in 1929.)

This changing conception of the nature of impulses bears on the question: is what the baby likes good for him? The opposition between the pleasant and the good is deeply grounded in older American morals (as in many other ascetic moral codes). There are strong doubts as to whether what is enjoyable is not wicked or deleterious. In recent years, however, there has been a marked effort to overcome this dichotomy, to say that what is pleasant is also good for you. The writers on child training reflect the changing ideas on this issue.

In the early period there is a clear-cut distinction between what the baby "needs," his legitimate requirements, whatever is essential to his health and well-being, on the one hand, and what the baby "wants," his illegitimate pleasure strivings, on the other. This is illustrated, for instance, in the question of whether to pick the baby up when he cries. In 1914, it was essential to determine whether he really needs something or whether he only wants something. Crying is listed as a bad habit. This is qualified with the remark that the baby has no other way of expressing his "needs"; if he is expressing a need, the mother should respond. "But when the baby cries simply because he has learned from experience that this brings him what he wants, it is one of the worst habits he can learn." If the baby cries, "the mother may suspect illness, pain, hunger or thirst." These represent needs. If checking on all these shows they are not present, "the baby probably wants to be taken up, walked with, played with," etc. "After the baby's needs have been fully satisfied he should be put down and allowed to cry." (This position remains substantially unchanged up to 1942.)

In 1942-45, wants and needs are explicitly equated. "A baby sometimes cries because he wants a little more attention. He probably needs a little extra attention under some circumstances just as he sometimes needs a little extra food and water. Babies want attention; they probably need plenty of it." What the baby wants for pleasure has thus become as legitimate a demand as what he needs for his physical well-being and is to be treated in the same way. (*Cf.* a recent television advertisement in which Angelo Patri is quoted as saying: "Youngsters today need television for their morale as much as they need fresh air and sunshine for their health." *New York Times*, November 14, 1950.)

The question of whether the baby wants things which are not good for him also occurs in connection with feeding. The baby's appetite was very little relied on to regulate the quantity of food he took in the early period. Over-feeding was regarded as a constant danger; the baby would never know when he had enough. This is in keeping with the general image of the baby at this time as a creature of insatiable impulses. In contrast to this we find in the recent period that "the baby's appetite usually regulates successfully the amount of food he takes." Thus again impulses appear as benevolent rather than dangerous.

Formerly, giving in to impulse was the way to encourage its growing beyond control. The baby who was picked up when he cried, held and rocked when he wanted it, soon grew into a tyrant. This has now been strikingly reversed. Adequate early indulgence is seen as the way to make the baby less demanding as he grows older. Thus we get the opposite of the old maxim, "Give the devil the little finger and he'll take the whole hand." It is now: "Give him the whole hand and he'll take only the little finger."

The attitude towards play is related to the conception of impulses and the belief about the good and the pleasant. Where impulses are dangerous and the good and pleasant are opposed, play is suspect. Thus in 1914, playing with the baby was regarded as dangerous; it produced unwholesome pleasure and ruined the baby's nerves. Any playful handling of the baby was titillating, excessively exciting, deleterious. Play carried the overtones of feared erotic excitement. As we noted, this was the period of an intensive masturbation taboo, and there were explicit apprehensions that the baby might be seduced into masturbation by an immoral nurse who might play with his genitals.

The mother of 1914 was told: "The rule that parents should not play with the baby may seem hard, but it is without doubt a safe one. A young delicate and nervous baby needs rest and quiet, and however robust the child much of the play that is indulged in is more or less harmful. It is a great pleasure to hear the baby laugh and crow in apparent delight, but often the means used to produce the laughter, such as tickling, punching, or tossing, makes him irritable and restless. It is a regrettable fact that the few minutes' play that the father has when he gets home at night . . . may result in nervous disturbance of the baby and upset his regular habits." It is relevant to note that at this time "playthings . . . such as rocking horses, swings, teeter boards, and the like" are cited in connection with masturbation, as means by which "this habit is learned." The dangerousness of play is related to that of the ever-present sensual impulses which must be constantly guarded against. (In 1929-38, play becomes less taboo, but must be strictly confined to certain times of the day. In this period the impulse to dominate replaces erotic impulses as the main hazard in the child's nature and the corresponding danger is that he may get the mother to play with him whenever he likes.)

In the recent period play becomes associated with harmless and healthful motor and exploratory activities. It assumes the aspect of diffuse innocuousness which the child's impulse life now presents. Play is derived from the baby's developing motor activities which are now increasingly stressed. "A baby needs to be able to move all parts of his body. He needs to exercise . . . At a very early age the baby moves his arms and legs aimlessly . . . As he gets older and stronger and his movements become more vigorous and he is better able to control them he begins to play." Thus play has been successfully dissociated from unhealthy excitement and nervous debilitation and has become associated with muscular development, necessary exercise, strength, and control. This is in keeping with the changed conception of the baby in which motor activities rather than libidinal urges are stressed. For the baby who is concerned with exploring his world rather than with sucking and masturbating, play becomes safe and good.

Play is now to be fused with all the activities of life. "Play and singing make both mother and baby enjoy the routine of life." This mingling of play with necessary routines is consonant with the view that the good and pleasant coincide. Also, as the mother is urged to make play an aspect of every activity, play assumes a new obligatory quality. Mothers are told that "a mother usually enjoys entering into her baby's play. Both of them enjoy the little games that mothers and babies have always played from time immemorial." (This harking back to time immemorial is a way of skipping over the more recent past.) "Daily tasks can be done with a little play and singing thrown in." Thus it is now not adequate for the mother to perform efficiently the necessary routines for her baby; she must also see that these are fun for both of them. It seems difficult here for anything to become permissible without becoming compulsory. Play, having ceased to be wicked, having become harmless and good, now becomes a new duty.

In keeping with the changed evaluation of impulses and play, the conception of parenthood has altered. In the earlier period, the mother's character was one of strong moral devotion. There were frequent references to her "self-control," "wisdom," "strength," "persistence," and "unlimited patience." The mothers who read these bulletins might either take pride in having such virtues or feel called upon to aspire to them. The writers supposed that some mothers might even go to excess in their devoted self-denial. Thus the mothers were told that for their own health and thus for the baby's good they should not stay bound to the cribside without respite, but should have some pleasant, although not too exhausting recreation. The mother at this time is pictured as denying her own impulses just as severely as she does those of her child. Just as she had to be told to let the baby's hands free occasionally (not to overdo the fight against thumbsucking), so she must be counselled to allow herself an intermission from duty. (In the 1929-38 period parenthood became predominantly a matter of know-how. The parents had to use the right technique to impose routines and to keep the child from dominating them.)

In the most recent period, parenthood becomes a major source of enjoyment for both parents (the father having come much more into the picture than he was earlier). The parents are promised that having children will keep them together, keep them young, and give them fun and happiness. As we have seen, enjoyment, fun, and play now permeate all activities with the child. "Babies—and usually their mothers—enjoy breast feeding"; nursing brings "joy and happiness" to the mother. At bath time the baby "delights" his parents, and so on.

The characterization of parenthood in terms of fun and enjoyment may be intended as an inducement to parents in whose scheme of values these are presumed to be priorities. But also it may express a new imperative: you ought to enjoy your child. When a mother is told that most mothers enjoy nursing, she may wonder what is wrong with her in case she does not. Her self-evaluation can no longer be based entirely on whether she is doing the right and necessary things, but becomes involved with nuances of feeling which are not under voluntary control. Fun has become not only permissible but required, and this requirement has a special quality different from the obligations of the older morality.

SOME HYPOTHESES CONCERNING WORK AND PLAY IN AMERICAN CULTURE

I should now like to speculate on the connection between the attitudes revealed in this child training literature and a wider range of attitude in American culture today. The extent of diffusion with respect to class, region, etc. of the attitudes I shall discuss would be a topic for further research.

The changing attitudes towards impulse and restraint, the changing treatment of play, the changing evaluation of fun which we have found in the child training literature would seem to have many counterparts in other areas of adult life. Play, amusement, fun have become increasingly divested of puritanical associations of wickedness. Where formerly there was felt to be the danger that in seeking fun, one might be carried away into the depths of wickedness, today there is a recognizable fear that one may not be able to let go sufficiently, that one may not have enough fun. In the recent past there has been an increased tendency to attempt by drinking to reduce constraint sufficiently so that we can have fun. Harold Laswell has defined the super-ego as that part of the personality which is soluble in alcohol. From having dreaded impulses and being worried about whether conscience was adequate to cope with them, we have come round to finding conscience a nuisance and worrying about the adequacy of our impulses.

Not having fun is not merely an occasion for regret but involves a loss of self-esteem. I ask myself: What is wrong with me that I am not having fun? To admit that one did not have fun when one was expected to, arouses feelings of shame. Where formerly it might have been thought that a young woman who went out a great deal might be doing wrong, currently we would wonder what is wrong with a girl who is not going out. Fun and play have assumed a new obligatory aspect. While gratification of forbidden impulses traditionally aroused guilt, failure to have fun currently occasions lowered self-esteem. One is apt to feel inadequate, impotent, and also unwanted. One fears the pity of one's contemporaries rather than, as formerly, possible condemnation by moral authorities.

In the past when work and play were more sharply isolated, virtue was associated with the one and the danger of sin with the other. Impulse gratification presented possibilities of intense excitement as well as of wickedness. Today we have attained a high degree of tolerance of impulses, which at the same time no longer seem capable of producing such intense excitement as formerly. Is it because we have come to realize that the devil does not exist that we are able to fuse play and fun with business, child care and so on? Or have we developed (without conscious calculation) a new kind of defense against impulses? This defense would consist in diffusion, ceasing to keep gratification deep, intense, and isolated, but allowing it to permeate thinly through all activities, to achieve by a mixture a further mitigation. Thus we would have preserved unacknowledged and unrecognized the tradition of puritanism. We do not pride ourselves on being good and we secretly worry about not having enough fun. But the submerged super-ego works better than we know, interspersing play in small doses with work and applying a norm of achievement to play. Instead of the image of the baby who has fierce pleasures of autoeroticism and the dangerous titillation of rare moments of play, we get the infant who explores his world, every part of whose extent is interesting but none intensely exciting, and who may have a bit of harmless play thrown in with every phase of the day's routine. We get the adult whose work is permeated with personal relations and entertainment requirements, the impact of which is far from intensely pleasurable, and whose playtime is haunted by self-doubts about his capacity for having as much fun as he should.

POSTSCRIPT

Since the foregoing was written a new edition of the *Infant Care* bulletin was issued, in the fall of 1951. This perpetuates many of the tendencies of the 1942-45 editions, but also shows some changes. Fun morality remains prominent. The new parents are told that they are making a good start if they can enjoy their baby. The child should learn that mother and father are "two people who enjoy each other." Introducing the baby to solid foods will be "fun" and "amusing" for the mother, and the baby will "enjoy the new experience more if you are having a good time." The mother should arrange the baby's bath so that it will be "the pleasant time it should be. . . . If you feel hurried, bath time won't be the fun for either of you that it should be."

The difficulty of achieving fun, which, as we have observed, tends currently to worry adults, is now ascribed to the infant as well (following the general tendency to see the infant as the model of impulse life). The infant now may suffer from boredom. And this has become the main reason for autoerotic activities. The baby may suck his thumb out of "loneliness or boredom." He may rock or bang his head because of "boredom." In toilet training the baby the mother must take care that it does not become a "hateful bore" for him. Masturbation is mentioned only in the section on toilet training: "sometimes a baby handles his genitals when he is on the toilet, or at other times when he is undressed." While it is not said explicitly that he does this out of boredom, we might infer it on an analogy with thumb-sucking, rocking, and head-banging since we are told that the baby may also get bored on the toilet. Thus the autoerotic activities which were first derived from fierce impulses, later from less intense exploratory tendencies, now arise as an escape from boredom. The dwindling of impulsive intensity has proceeded further than before.

The exploratory impulse of the baby continues to be stressed. We have interpreted this as an attempt to conceive the child's impulsive endowment in harmless terms. But the puritanical condemnation of impulses seems to be catching up with this displacement. Bounds must now be set to the baby's exploration. "We know that if we leave him free to creep everywhere he'd get into trouble." Thus we must "set a limit" for the baby "while he explores."

There are still more striking signs that the belief in the dangerousness of impulses is breaking through the defenses that have been erected against it. In 1942-45 the view was advanced that the early gratification of the baby's demands led to the subsequent moderation of demands. There is now a conflict on this point. In some areas the precept is maintained, notably in relation to sucking and food preferences. But in respect to the impulse to dominate it has been reversed. The apprehension of the twenties that the baby may get the upper hand if his parents give in to him reappears. The baby may get the parents "at his mercy by unreasonable demands for attention." Although the baby's need for companionship and for being held when he cries is stressed the mother is also warned: "If you get in the habit of picking your baby up every time he whimpers, you may do more harm than good." The gratified demand is apt to grow rather than subside. The mother "may find her baby getting more and more demanding."

Thus the conflict about facing and accepting human impulses is far from solved. The attempt to dilute and diffuse impulses seems to lead, on the one hand, to doubts about adequate impulsive intensity, boredom and the difficulty of achieving fun. On the other hand, the anxiety that impulses in one form or another will tend to grow beyond control has not been successfully warded off.

The Changing American Child—A Speculative Analysis

Urie Bronfenbrenner[6]

The following article is also a study of the relationship between parental behavior and its effects upon children. Wolfenstein examined the nature of the changes advocated by professional people. But there is a deeper strata—the culture itself. Do patterns of child rearing reflect broad changes in our cultural patterns as a whole, or do they result from the impact on parents of the teachings of experts? Bronfenbrenner examines the current trend toward greater tolerance with less rigid discipline and discusses the effects of this change upon parent-child relationships. He also speculates about possible future changes in child-rearing methods as we enter an era in which the emphasis is on *achievement* instead of *adjustment*.

A QUESTION OF MOMENT

It is now a matter of scientific record that patterns of child rearing in the United States have changed appreciably over the past twenty-five years. Middle class parents especially have moved away from the more rigid and strict styles of care and discipline advocated in the early Twenties and Thirties toward modes of response involving greater tolerance of the child's impulses and desires, freer expression of affection, and increased reliance on "psychological" methods of discipline, such as reasoning and appeals to guilt, as distinguished from more direct techniques like physical punishment. At the same time, the gap between the social classes in their goals and methods of child rearing appears to be narrowing, with working class parents beginning to adopt both the values and techniques of the middle class. Finally, there is dramatic correspondence between these observed shifts in parental values and behavior and the changing character of the attitudes and practices advocated in successive editions of such widely read manuals as the Children's Bureau bulletin on *Infant Care* and Spock's *Baby and Child Care*. Such correspondence should not be taken to mean that the expert has now become the principal instigator and instrument of social change, since the ideas of scientists and professional workers themselves reflect in part the operation of deep-rooted cultural processes. Nevertheless, the fact remains that changes in values and practices advocated by prestigeful professional figures can be substantially accelerated by rapid and widespread dissemination through the press, mass media of communication, and public discussion.

Given these facts, it becomes especially important to gauge the effect of the changes that are advocated and adopted. Nowhere is this issue more significant, both scientifically and socially, than in the sphere of familial values and behavior. It is certainly no trivial matter to ask whether the changes that have occurred in the attitudes and actions of parents over the past twenty-five years have been such as to affect the personality development of their children, so that the boys and girls of today are somewhat different in character structure from those of a decade or more ago. Or, to put the question more succinctly: has the changing American parent produced a changing American child?

---

[6] from **The Journal of Social Issues,** Vol. 17, No. 1, 1961, pp. 6-18. Reprinted by permission of the publisher.

A STRATEGY OF INFERENCE

Do we have any basis for answering this intriguing question? To begin with, do we have any evidence of changes in the behavior of children in successive decades analogous to those we have already been able to find for parents? If so, we could take an important first step toward a solution of the problem. Unfortunately, in contrast to his gratifying experience in seeking and finding appropriate data on parents, the present writer has, to date, been unable to locate enough instances in which comparable methods of behavioral assessment have been employed with different groups of children of similar ages over an extended period of time. Although the absence of such material precludes any direct and unequivocal approach to the question at hand, it is nevertheless possible, through a series of inferences from facts already known, to arrive at some estimate of what the answer might be. Specifically, although as yet we have no comparable data on the relation between parental and child behavior for different families at successive points in time, we do have facts on the influence of parental treatment on child behavior at a given point in time; that is, we know that certain variations in parental behavior tend to be accompanied by systematic differences in the personality characteristics of children. If we are willing to assume that these same relationships obtained not only at a given moment but across different points in time, we are in a position to infer the possible effects on children of changing patterns of child rearing over the years. It is this strategy that we propose to follow.

THE CHANGING AMERICAN PARENT

We have already noted the major changes in parental behavior discerned in a recent analysis of data reported over a twenty-five year period. These secular trends may be summarized as follows:

1. Greater permissiveness toward the child's spontaneous desires
2. Freer expression of affection
3. Increased reliance on indirect "psychological" techniques of discipline (such as reasoning or appeals to guilt) vs. direct methods (like physical punishment, scolding, or threats)
4. In consequence of the above shifts in the direction of what are predominantly middle class values and techniques, a narrowing of the gap between social classes in their patterns of child rearing.

Since the above analysis was published, a new study has documented an additional trend. Bronson, Katten, and Livson have compared patterns of paternal and maternal authority and affection in two generations of families from the California Guidance Study. Unfortunately, the time span surveyed overlaps only partially with the twenty-five year period covered in our own analysis, the first California generation having been raised in the early 1900's and the second in the late '20's and early '30's. Accordingly, if we are to consider the California results along with the others cited above, we must make the somewhat risky assumption that a trend discerned in the first three decades of the century has continued in the same direction through the early 1950's. With this important qualification, an examination of the data cited by Bronson et al. points to still another, secular trend—a shift over the years in the pattern of parental role differentiation within the family. Specifically:

5. In succeeding generations the relative position of the father vis-a-vis the mother is shifting with the former becoming increasingly more affectionate and less authoritarian, and the latter becoming relatively more important as the agent of discipline, especially for boys.

"PSYCHOLOGICAL" TECHNIQUES OF DISCIPLINE AND THEIR EFFECTS

In pursuing our analytic strategy, we next seek evidence of the effects on the behavior of children of variations in parental treatment of the type noted in our inventory. We may begin by noting that the variables involved in the first three secular trends constitute a complex that has received considerable attention in recent research in parent-child relationships. Within the last three years, two sets of investigators, working independently, have called attention to the greater efficacy of "love-oriented" or "psychological" techniques in bringing about desired behavior in the child (Sears, Maccoby, and Levin, 1957; Miller and Swanson, 1958; 1960). The present writer, noting that such methods are especially favored by middle class parents, offered the following analysis of the nature of these techniques and the reasons for their effectiveness.

> Such parents are, in the first place, more likely to overlook offenses, and when they do punish, they are less likely to ridicule or inflict physical pain. Instead, they reason with the youngster, isolate him, appeal to guilt, show disappointment—in short, convey in a variety of ways, on the one hand, the kind of behavior that is expected of the child; on the other, the realization that transgression means the interruption of a mutually valued relationship. . . .
>
> These findings [of greater efficacy] mean that middle class parents, though in one sense more lenient in their discipline techniques, are using methods that are actually more compelling. Moreover, the compelling power of these practices is probably enhanced by the more permissive treatment accorded to middle class children in the early years of life. The successful use of withdrawal of love as a discipline technique implies the prior existence of a gratifying relationship; the more love present in the first instance, the greater the threat implied in its withdrawal.

It is now a well-established fact that children from middle class families tend to excel those from lower class in many characteristics ordinarily regarded as desirable, such as self-control, achievement, responsibility, leadership, popularity, and adjustment in general.[7] If, as seems plausible, such differences in behavior are attributable at least in part to class-linked variations in parental treatment, the strategy of inference we have adopted would appear on first blush to lead to a rather optimistic conclusion. Since, over the years, increasing numbers of parents have been adopting the more effective socialization techniques typically employed by the middle class, does it not follow that successive generations of children should show gains in the development of effective behavior and desirable personality characteristics?

Unfortunately, this welcome conclusion, however logical, is premature, for it fails to take into account all of the available facts.

SEX, SOCIALIZATION, AND SOCIAL CLASS

To begin with, the parental behaviors we have been discussing are differentially distributed not only by socio-economic status but also by sex. As we have pointed out elsewhere, girls are exposed to more affection and less punishment than boys, but at the same time are more likely to be subjected to "love-oriented" discipline of the type which encourages the development of internalized controls. And, consistent with our line of reasoning, girls are found repeatedly to be "more obedient, cooperative, and in general better socialized than boys at comparable age levels." But this is not the whole story.

> . . . At the same time, the research results indicate that girls tend to be more anxious, timid, dependent, and sensitive to rejection. If these differences are a function of differential treatment by parents, then it would seem that the more "efficient" methods of child rearing employed with girls involve some risk of what might be called "over-socialization."

One could argue, of course, that the contrasting behaviors of boys and girls have less to do with differential parental treatment than with genetically-based maturational influences. Nevertheless, two independent lines of evidence suggest that socialization techniques do contribute to individual differences, *within the same sex*, precisely in the types of personality characteristics noted above. In the first place, variations in child behavior and parental treatment strikingly similar to those we have cited for the two sexes are reported in a recent comprehensive study of differences between first and later born children. Like girls, first children receive more attention, are more likely to be exposed to "psychological" discipline, and end up more anxious and dependent, whereas later children, like boys, are more aggressive and self-confident.

---

[7] For a summary of findings on social class differences in children's behavior and personality characteristics, see P. H. Mussen and J. J. Conger, **Child Development and Personality** (New York: Harper, 1956).

A second line of evidence comes from our own current research. We have been concerned with the role of parents in the development of such "constructive" personality characteristics as responsibility and leadership among adolescent boys and girls. Our findings reveal not only the usual differences in adolescents' and parents' behaviors associated with the sex of the child, but also a striking contrast in the relationship between parental and child behaviors for the two sexes. To start on firm and familiar ground, girls are rated by their teachers as more responsible than boys, whereas the latter obtain higher scores on leadership. Expected differences similarly appear in the realm of parental behavior: girls receive more affection, praise, and companionship; boys are subjected to more physical punishment and achievement demands. Quite unanticipated, however, at least by us, was the finding that both parental affection and discipline appeared to facilitate effective psychological functioning in boys, but to impede the development of such constructive behavior in girls. Closer examination of our data indicated that both extremes of either affection or discipline were deleterious for all children, but that the process of socialization entailed somewhat different risks for the two sexes. Girls were especially susceptible to the detrimental influence of over-protection; boys to the ill effects of insufficient parental discipline and support. Or, to put it in more colloquial terms: boys suffered more often from too little taming, girls from too much.

In an attempt to account for this contrasting pattern of relationships, we proposed the notion of differential optimal levels of affection and authority for the two sexes

The qualities of independence, initiative, and self-sufficiency, which are especially valued for boys in our culture, apparently require for their development a somewhat different balance of authority and affection than is found in the "love-oriented" strategy characteristically applied with girls. While an affectional context is important for the socialization of boys, it must evidently be accompanied by and be compatible with a strong component of parental discipline. Otherwise, the boy finds himself in the same situation as the girl, who, having received greater affection, is more sensitive to its withdrawal, with the result that a little discipline goes a long way and strong authority is constricting rather than constructive.

What is more, available data suggest that this very process may already be operating for boys from upper middle class homes. To begin with, differential treatment of the sexes is at a minimum for these families. Contrasting parental attitudes and behaviors toward boys and girls are pronounced only at lower class levels, and decrease as one moves up the socio-economic scale. Thus our own results show that it is primarily at lower middle class levels that boys get more punishment than girls, and the latter receive greater warmth and attention. With an increase in the family's social position, direct discipline drops off, especially for boys, and indulgence and protectiveness decrease for girls. As a result, patterns of parental treatment for the two sexes begin to converge. In like manner, we find that the differential effects of parental behavior on the two sexes are marked only in the lower middle class. It is here that girls especially risk being over-protected and boys not receiving sufficient discipline and support. In upper middle class the picture changes. Girls are not as readily debilitated by parental affection and power; nor is parental discipline as effective in fostering the development of responsibility and leadership in boys.

All these trends point to the conclusion that the "risks" experienced by each sex during the process of socialization tend to be somewhat different at different social class levels. Thus the danger of overprotection for girls is especially great in lower class families, but lower in upper middle class because of the decreased likelihood of overprotection. Analogously, boys are in greater danger of suffering from inadequate discipline and support in lower middle than in upper middle class. But the upper middle class boy, unlike the girl, exchanges one hazard for another. Since at this upper level the more potent "psychological" techniques of discipline are likely to be employed with both sexes, the boy presumably now too runs the risk of being "oversocialized," of losing some of his capacity for independent aggressive accomplishment.

Accordingly, if our line of reasoning is correct, we should expect a changing pattern of sex differences at successive socio-economic levels. Specifically, aspects of effective psychological functioning favoring girls should be most pronounced in the upper middle class; those favoring boys in the lower middle. A recent analysis of some of our data bears out this expectation. Girls excel boys on such variables as *responsibility* and *social acceptance* primarily at the higher socio-economic levels. In contrast, boys surpass girls on such traits as *leadership, level of aspiration,* and *competitiveness* almost exclusively in lower middle class. Indeed, with a rise in a family's social position, the differences tend to reverse themselves with girls now excelling boys.

TRENDS IN PERSONALITY DEVELOPMENT: A FIRST APPROXIMATION

The implications for our original line of inquiry are clear. We are suggesting that the "love-oriented" socialization techniques, which over the past twenty-five years have been employed in increasing degree by American middle class families, may have negative as well as constructive aspects. While fostering the internalization of adult standards and the development of socialized behavior, they may also have the effect of undermining capacities for initiative and independence, particularly in boys. . . .

At long last, then, our strategy of inference has led us to a first major conclusion. The term "major" is appropriate since the conclusion takes as its points of departure and return four of the secular trends which served as the impetus for our inquiry. Specifically, through a series of empirical links and theoretical extrapolations, we have arrived at an estimate of the effects on children of the tendency of successive generations of parents to become progressively more permissive, to express affection more freely, to utilize "psychological" techniques of discipline, and, by moving in these directions to narrow the gap between the social classes in their patterns of child rearing.

FAMILY STRUCTURE AND PERSONALITY DEVELOPMENT

But one other secular trend remains to be considered: what of the changing pattern of parental role differentiation during the first three decades of the century? . . .

We may begin by considering the contribution of each parent to the socialization processes we have examined thus far. Our data indicate that it is primarily mothers who tend to employ "love-oriented" techniques of discipline and fathers who rely on more direct methods like physical punishment. The above statement must be qualified, however, by reference to the sex of the child, for it is only in relation to boys that fathers use direct punishment more than mothers. More generally, . . . the results reveal a tendency for each parent to be somewhat more active, firm, and demanding with a child of the same sex, more lenient and indulgent with a child of the opposite sex. . . . The reversal is most complete with respect to discipline, with fathers being stricter with boys, mothers with girls. In the spheres of affection and protectiveness, there is no actual shift in preference, but the tendency to be especially warm and solicitous with girls is much more pronounced among fathers than among mothers. In fact, generally speaking, it is the father who is more likely to treat children of the two sexes differently.

Consistent with this pattern of results, it is primarily the behavior of fathers that accounts for the differential effects of parental behavior on the two sexes and for the individual differences within each sex. In other words, it is paternal authority and affection that tend especially to be salutary for sons but detrimental for daughters. But as might be anticipated from what we already know, these trends are pronounced only in the lower middle class; with a rise in the family's social status, both parents tend to have similar effects on their children, both within and across sexes. Such a trend is entirely to be expected since parental role differentiation tends to decrease markedly as one ascends the socio-economic ladder. It is almost exclusively in lower middle class homes that fathers are more strict with boys and mothers with girls. To the extent that direct discipline is employed in upper middle class families, it tends to be exercised by both parents equally. Here again we see a parallelism between shifts in parental behavior across time and social class in the direction of forms (in this instance of family structure) favored by the upper middle class group.

What kinds of children, then, can we expect to develop in families in which the father plays a predominantly affectionate role, and a relatively low level of discipline is exercised equally by both parents? A tentative answer to this question is supplied by a preliminary analysis of our data in which the relation between parental role structure and adolescent behavior was examined with controls for the family's social class position. The results of this analysis are summarized as follows: . . . Both responsibility and leadership are fostered by the relatively greater salience of the parent of the same sex. . . . Boys tend to be more responsible when the father rather than the mother is the principal disciplinarian; girls are more dependable when the mother is the major authority figure. . . . In short, boys thrive in a patriarchal context, girls in a matriarchal. . . . The most dependent and least dependable adolescents describe family arrangements that are neither patriarchal nor matriarchal, but equalitarian. To state the issue in more provocative form, our data suggest that the democratic family, which for so many years has been held up and aspired to as a model by professionals and enlightened laymen, tends to produce young people who "do not take initiative," "look to others for direction and decision." . . .

In the wake of so sweeping a conclusion, it is important to call attention to the tentative, if not tenuous character of our findings. The results were based on a single study employing crude questionnaire methods and rating scales. Also, our interpretation is limited by the somewhat "attenuated" character of most of the families classified as patriarchal or matriarchal in our sample. Extreme concentrations of power in one or another parent were comparatively rare. Had they been more frequent, we suspect the data would have shown that such extreme asymmetrical patterns of authority were detrimental rather than salutary for effective psychological development. . . .

What might best be called complementary evidence for our inferences regarding trends in family structure and their effects comes from the work of Miller, Swanson, and their associates on the differing patterns of behavior exhibited by families from *bureaucratic* and *entrepreneurial* work settings. These investigators argue that the entrepreneurial-bureaucratic dichotomy represents a new cleavage in American social structure that cuts across and overrides social class influences and carries with it its own characteristic patterns of family structure and socialization. Thus one investigation contrasts the exercise of power in families of husbands employed in two kinds of job situations: a) those working in large organizations with three or more levels of supervision; b) those self-employed or working in small organizations with few levels of supervision. With appropriate controls for social class, equalitarian families were found more frequently in the bureaucratic groups; patriarchal and, to a lesser extent, matriarchal in the entrepreneurial setting. Another study shows that, in line with Miller and Swanson's hypotheses, parents from these same two groups tend to favor rather different ends and means of socialization, with entrepreneurial families putting considerably more emphasis on the development of independence and mastery and on the use of "psychological" techniques of discipline. These differences appear at both upper and lower middle class levels but are less pronounced in higher socio-economic strata. It is Miller and Swanson's belief, however, that the trend is toward the bureaucratic way of life, with its less structured patterns of family organization and child rearing. The evidence we have cited on secular changes in family structure and the inferences we have drawn regarding their possible effects on personality development are on the whole consistent with their views.

LOOKING FORWARD

If Miller and Swanson are correct in the prediction that America is moving toward a bureaucratic society that emphasizes, to put it colloquially, "getting along" rather than "getting ahead," then presumably we can look forward to ever increasing numbers of equalitarian families who, in turn, will produce successive generations of ever more adaptable but unaggressive "organization men." But recent signs do not all point in this direction. In our review of secular trends in child rearing practices we detected in the data from the more recent studies a slowing up in the headlong rush toward greater permissiveness and toward reliance on indirect methods of discipline. We pointed out also that if the most recent editions of well-thumbed guidebooks on child care are as reliable harbingers of the future as they have been in the past, we can anticipate something of a return to the more explicit discipline techniques of an earlier era. Perhaps the most important forces, however, acting to redirect both the aims and methods of child rearing in America emanate from behind the Iron Curtain. With the firing of the first Sputnik, Achievement began to replace Adjustment as the highest goal of the American way of life. We have become concerned—perhaps even obsessed—with "education for excellence" and the maximal utilization of our intellectual resources. Already, ability grouping, and the guidance counsellor who is its prophet, have moved down from the junior high to the elementary school, and parents can be counted on to do their part in preparing their youngsters for survival in the new competitive world of applications and achievement tests.

But if a new trend in parental behavior is to develop, it must do so in the context of changes already under way. And if the focus of parental authority is shifting from husband to wife, then perhaps we should anticipate that pressures for achievement will be imposed primarily by mothers rather than fathers. Moreover, the mother's continuing strong emotional investment in the child should provide her with a powerful lever for evoking desired performance. It is noteworthy in this connection that recent studies of the familial origins of need-achievement point to the matriarchy as the optimal context for development of the motive to excel.

The prospect of a society in which socialization techniques are directed toward maximizing achievement drive is not altogether a pleasant one. As a number of investigators have shown, high achievement motivation appears to flourish in a family atmosphere of "cold democracy" in which initial high levels of maternal involvement are followed by pressures for independence and accomplishment.[8] Nor does the product of this process give ground for reassurance. True, children from achievement-oriented homes excel in planfulness and performance, but they are also more aggressive, tense, domineering, and cruel. It would appear that education for excellence if pursued single-mindedly may entail some sobering social costs.

But by now we are in danger of having stretched our chain of inference beyond the strength of its weakest link. Our speculative analysis has become far more speculative than analytic and to pursue it further would bring us past the bounds of science into the realms of science fiction. In concluding our discussion, we would re-emphasize that speculations should, by their very nature, be held suspect. It is for good reason that, like "damn Yankees" they too carry their almost inseparable sobriquets: speculations are either "idle" or "wild." Given the scientific and social importance of the issues we have raised, we would dismiss the first of these labels out of hand, but the second cannot be disposed of so easily. Like the impetuous child, the "wild" speculation responds best to the sobering influence of friendly but firm discipline, in this instance from the hand of the behavioral scientist. As we look ahead to the next twenty-five years of human socialization, let us hope that the "optimal levels" of involvement and discipline can be achieved not only by the parent who is unavoidably engaged in the process, but also by the scientist who attempts to understand its working, and who—also unavoidably—contributes to shaping its course.

---

[8] Cold democracy under female administration appears to foster the development of achievement not only in the home but in the classroom as well. In a review of research on teaching effectiveness, Ackerman reports that teachers most successful in bringing about gains in achievement score for their pupils were judged "least considerate," while those thought friendly and congenial were least effective. (W. I. Ackerman, "Teacher Competence and Pupil Change," **Harvard Educational Review**, 1954, 24:273-289.) See pp. 286-294 in the present volume.

INTERPRETING THE SELECTIONS

Raths article

1. Can you think of any way to test the hypothesis that aggression, submission, withdrawal, and psychosomatic symptoms are causally related to frustration of emotional needs?

2. What needs do you think all children have, or, to phrase it differently, what do you think all children need? How many of these are actually motivating forces for the children, and how many are simply things that we know children need for good physical and mental health?

3. Do you think Raths' eight emotional needs are adequate to account for children's motivation? What other needs or motives would you postulate? Do you think the concept of emotional needs is useful?

4. Is a needs theory adequate to explain motivation? For example, do people have these emotional needs all the time or only under conditions of frustration? If the former, do the needs continue to act as motivating forces when satiated, and how can this be: if all a child's needs were met, what motivation would he have for learning or doing anything at all? If the latter, what force is it that was frustrated?

Langdon and Stout article

1. How adequate were the authors' criteria for "good adjustment" and their method of picking the children whose homes they would study?

2. What conclusions can legitimately be drawn from this study?

Wolfenstein article

1. Are any aspects of current child-training theory apparently due directly to application of psychological knowledge, or are they all explainable as a reflection of the current cultural values?

2. A still later edition of the *Infant Care* bulletin was published in 1955. Send for a copy and see how it compares with the last two or three editions.

3. How would you set up a study, as the author suggests, to investigate the extent of diffusion of "fun morality" among different classes and different parts of the country?

Bronfenbrenner article

1. Give concrete examples of "psychological" methods of discipline applied in the classroom. What possible negative effects might such methods have?

2. Can the author's tentative conclusion that the democratic, equalitarian family tends to produce less responsible and more dependent children be applied to the democratic classroom? Why or why not? How valid is his conclusion when applied to the family?

3. What are the implications for teaching in the differences found between the reactions of boys and girls to punishment and to "love-oriented" discipline?

4. The author states that "education for excellence . . . may entail some sobering social costs." What might these costs be? What might we do to avoid some of these costs and still promote excellence?

5

THE ELEMENTARY-SCHOOL CHILD

Summerhill: A Radical Approach to Child Rearing

Alexander S. Neill[1]

The first two selections in this chapter should be read as a pair. Two powerful thinkers—one an educator and one a psychologist—examine patterns for education.

The idea that both individuals and society can be improved—and even perfected—by proper education goes back about as far as recorded history. However, this idea can be interpreted in two ways. One is that human nature itself is innately both good and wise. If a child is freed from the artificial and outmoded conventions and restraints of society, he will be free to develop as nature intended. The classic development of this idea is found in the writings of Jean Jacques Rousseau and particularly in *Émile,* a book that carries the subtitle *Education According to Nature.*

Summerhill, the first selection in this chapter, tells the story of a real school in England that applies romantic naturalism to education. The key concept at Summerhill is that the individual should be free to grow according to the natural pattern of human development. The child is allowed to make his own decisions and must accept responsibility for his own actions.

Do you think most parents and teachers today are afraid to give children as much freedom as this? Do you think we can really trust in the goodness and sagacity of human nature as Neill (and Rousseau) believe? Does Summerhill, as an institution, meet the criteria of a *good* society? Read the second selection in this chapter, which presents an entirely different approach to the problem of improving individuals and society.

---

[1] from **Summerhill: A Radical Approach to Child Rearing** by A. S. Neill, pp. 3-55. Copyright © 1960 by Hart Publishing Co., Inc., New York, and reprinted by their permission.

THE IDEA OF SUMMERHILL

This is a story of a modern school—Summerhill.

Summerhill was founded in the year 1921. The school is situated within the village of Leiston, in Suffolk, England, and is about one hundred miles from London.

Just a word about Summerhill pupils. Some children come to Summerhill at the age of five years, and others as late as fifteen. The children generally remain at the school until they are sixteen years old. We generally have about twenty-five boys and twenty girls.

The children are divided into three age groups: The youngest range from five to seven, the intermediates from eight to ten, and the oldest from eleven to fifteen.

Generally we have a fairly large sprinkling of children from foreign countries. At the present time (1960) we have five Scandinavians, one Hollander, one German and one American.

The children are housed by age groups with a house mother for each group. The intermediates sleep in a stone building, the seniors sleep in huts. Only one or two older pupils have rooms for themselves. The boys live two or three or four to a room, and so do the girls. The pupils do not have to stand room inspection and no one picks up after them. They are left free. No one tells them what to wear: they put on any kind of costume they want to at any time.

Newspapers call it a *Go-as-you-please School* and imply that it is a gathering of wild primitives who know no law and have no manners.

It seems necessary, therefore, for me to write the story of Summerhill as honestly as I can. That I write with a bias is natural; yet I shall try to show the demerits of Summerhill as well as its merits. Its merits will be the merits of healthy, free children whose lives are unspoiled by fear and hate.

Obviously, a school that makes active children sit at desks studying mostly useless subjects is a bad school. It is a good school only for those who believe in *such* a school, for those uncreative citizens who want docile, uncreative children who will fit into a civilization whose standard of success is money.

Summerhill began as an experimental school. It is no longer such; it is now a demonstration school, for it demonstrates that freedom works.

When my first wife and I began the school, we had one main idea: *to make the school fit the child*—instead of making the child fit the school.

I had taught in ordinary schools for many years. I knew the other way well. I knew it was all wrong. It was wrong because it was based on an adult conception of what a child should be and of how a child should learn. The other way dated from the days when psychology was still an unknown science.

Well, we set out to make a school in which we should allow children freedom to be themselves. In order to do this, we had to renounce all discipline, all direction, all suggestion, all moral training, all religious instruction. We have been called brave, but it did not require courage. All it required was what we had—a complete belief in the child as a good, not an evil, being. For almost forty years, this belief in the goodness of the child has never wavered; it rather has become a final faith.

My view is that a child is innately wise and realistic. If left to himself without adult suggestion of any kind, he will develop as far as he is capable of developing. Logically, Summerhill is a place in which people who have the innate ability and wish to be scholars will be scholars; while those who are only fit to sweep the streets will sweep the streets. But we have not produced a street cleaner so far. Nor do I write this snobbishly, for I would rather see a school produce a happy street cleaner than a neurotic scholar.

What is Summerhill like? Well, for one thing, lessons are optional. Children can go to them or stay away from them—for years if they want to. There *is* a timetable—but only for the teachers.

The children have classes usually according to their age, but sometimes according to their interests. We have no new methods of teaching, because we do not consider that teaching in itself matters very much. Whether a school has or has not a special method for teaching long division is of no significance, for long division is of no importance except to those who *want* to learn it. And the child who *wants* to learn long division *will* learn it no matter how it is taught.

Children who come to Summerhill as kindergarteners attend lessons from the beginning of their stay; but pupils from other schools vow that they will never attend any beastly lessons again at any time. They play and cycle and get in people's way, but they fight shy of lessons. This sometimes goes on for months. The recovery time is proportionate to the hatred their last school gave them. Our record case was a girl from a convent. She loafed for three years. The average period of recovery from lesson aversion is three months.

Strangers to this idea of freedom will be wondering what sort of madhouse it is where children play all day if they want to. Many an adult says, "If I had been sent to a school like that, I'd never have done a thing." Others say, "Such children will feel themselves heavily handicapped when they have to compete against children who have been made to learn."

I think of Jack who left us at the age of seventeen to go into an engineering factory. One day, the managing director sent for him.

"You are the lad from Summerhill," he said. "I'm curious to know how such an education appears to you now that you are mixing with lads from the old schools. Suppose you had to choose again, would you go to Eton or Summerhill?"

"Oh, Summerhill, of course," replied Jack.

"But what does it offer that the other schools don't offer?"

Jack scratched his head. "I dunno," he said slowly; "I think it gives you a feeling of complete self-confidence."

"Yes," said the manager dryly, "I noticed it when you came into the room."

"Lord," laughed Jack, "I'm sorry if I gave you that impression."

"I liked it," said the director. "Most men when I call them into the office fidget about and look uncomfortable. You came in as my equal. By the way, what department did you say you would like to transfer to?"

This story shows that learning in itself is not as important as personality and character. Jack failed in his university exams because he hated book learning. But his lack of knowledge about *Lamb's Essays* or the French language did not handicap him in life. He is now a successful engineer.

All the same, there is a lot of learning in Summerhill. Perhaps a group of our twelve-year-olds could not compete with a class of equal age in handwriting or spelling or fractions. But in an examination requiring originality, our lot would beat the others hollow.

We have no class examinations in the school, but sometimes I set an exam for fun. The following questions appeared in one such paper:

> Where are the following:—Madrid, Thursday Island, yesterday, love, democracy, hate, my pocket screwdriver (alas, there was no helpful answer to that one).
>
> Give meanings for the following: (the number shows how many are expected for each)—Hand (3) . . . only two got the third right—the standard of measure for a horse. Brass (4) . . . metal, cheek, top army officers, department of an orchestra. Translate Hamlet's To-be-or-not-to-be speech into Summerhillese.

These questions are obviously not intended to be serious, and the children enjoy them thoroughly. Newcomers, on the whole, do not rise to the answering standard of pupils who have become acclimatized to the school. Not that they have less brain power, but rather because they have become so accustomed to work in a serious groove that any light touch puzzles them.

This is the play side of our teaching. In all classes much work is done. If, for some reason, a teacher cannot take his class on the appointed day, there is usually much disappointment for the pupils.

David, aged nine, had to be isolated for whooping cough. He cried bitterly. "I'll miss Roger's lesson in geography," he protested. David had been in the school practically from birth, and he had definite and final ideas about the necessity of having his lessons given to him. David is now a lecturer in mathematics at London University.

A few years ago someone at a General School Meeting (at which all school rules are voted by the entire school, each pupil and each staff member having one vote) proposed that a certain culprit should be punished by being banished from lessons for a week. The other children protested on the ground that the punishment was too severe.

My staff and I have a hearty hatred of all examinations. To us, the university exams are anathema. But we cannot refuse to teach children the required subjects. Obviously, as long as the exams are in existence, they are our master. Hence, the Summerhill staff is always qualified to teach to the set standard.

Not that many children want to take these exams; only those going to the university do so. And such children do not seem to find it especially hard to tackle these exams. They generally begin to work for them seriously at the age of fourteen, and they do the work in about three years. Of course they don't always pass at the first try. The more important fact is that they try again.

Summerhill is possibly the happiest school in the world. We have no truants and seldom a case of homesickness. We very rarely have fights—quarrels, of course, but seldom have I seen a stand-up fight like the ones we used to have as boys. I seldom hear a child cry, because children when free have much less hate to express than children who are downtrodden. Hate breeds hate, and love breeds love. Love means approving of children, and that is essential in any school. You can't be on the side of children if you punish them and storm at them. Summerhill is a school in which the child knows that he is approved of.

Mind you, we are not above and beyond human foibles. I spent weeks planting potatoes one spring, and when I found eight plants pulled up in June, I made a big fuss. Yet there was a difference between my fuss and that of an authoritarian. My fuss was about potatoes, but the fuss an authoritarian would have made would have dragged in the question of morality—right and wrong. I did not say that it was wrong to steal my spuds; I did not make it a matter of good and evil—I made it a matter of *my spuds*. They were *my* spuds and they should have been left alone. I hope I am making the distinction clear.

Let me put it another way. To the children, I am no authority to be feared. I am their equal, and the row I kick up about my spuds has no more significance to them than the row a boy may kick up about his punctured bicycle tire. It is quite safe to have a row with a child when you are equals.

Now some will say: "That's all bunk. There can't be equality. Neill is the boss; he is bigger and wiser." That is indeed true. I am the boss, and if the house caught fire the children would run to me. They know that I am bigger and more knowledgeable, but that does not matter when I meet them on their own ground, the potato patch, so to speak.

When Billy, aged five, told me to get out of his birthday party because I hadn't been invited, I went at once without hesitation—just as Billy gets out of my room when I don't want his company. It is not easy to describe this relationship between teacher and child, but every visitor to Summerhill knows what I mean when I say that the relationship is ideal. . . .

The most frequent question asked by Summerhill visitors is, "Won't the child turn round and blame the school for not making him learn arithmetic or music?" The answer is that young Freddy Beethoven and young Tommy Einstein will refuse to be kept away from their respective spheres.

The function of the child is to live his own life—not the life that his anxious parents think he should live, nor a life according to the purpose of the educator who thinks he knows what is best. All this interference and guidance on the part of adults only produces a generation of robots.

You cannot *make* children learn music or anything else without to some degree converting them into will-less adults. You fashion them into accepters of the *status quo*—a good thing for a society that needs obedient sitters at dreary desks, standers in shops, mechanical catchers of the 8:30 suburban train—a society, in short, that is carried on the shabby shoulders of the scared little man—the scared-to-death conformist.

SUMMERHILL EDUCATION VS. STANDARD EDUCATION

I hold that the aim of life is to find happiness, which means to find interest. Education should be a preparation for life. Our culture has not been very successful. Our education, politics, and economics lead to war. Our medicines have not done away with disease. Our religion has not abolished usury and robbery. Our boasted humanitarianism still allows public opinion to approve of the barbaric sport of hunting. The advances of the age are advances in mechanism —in radio and television, in electronics, in jet planes. New world wars threaten, for the world's social conscience is still primitive. . . .

How much of our education is real doing, real self-expression? Handwork is too often the making of a pin tray under the eye of an expert. Even the Montessori system, well-known as a system of directed play, is an artificial way of making the child learn by doing. It has nothing creative about it.

In the home, the child is always being taught. In almost every home, there is always at least one ungrown-up grownup who rushes to show Tommy how his new engine works. There is always someone to lift the baby up on a chair when baby wants to examine something on the wall. Every time we show Tommy how his engine works we are stealing from that child the joy of life—the joy of discovery—the joy of overcoming an obstacle. Worse! We make that child come to believe that he is inferior, and must depend on help.

Parents are slow in realizing how unimportant the learning side of school is. Children, like adults, learn what they want to learn. All prize-giving and marks and exams sidetrack proper personality development. Only pedants claim that learning from books is education.

Books are the least important apparatus in a school. All that any child needs is the three R's; the rest should be tools and clay and sports and theater and paint and freedom.

Most of the school work that adolescents do is simply a waste of time, of energy, of patience. It robs youth of its right to play and play and play; it puts old heads on young shoulders.

When I lecture to students at teacher training colleges and universities, I am often shocked at the ungrownupness of these lads and lasses stuffed with useless knowledge. They know a lot; they shine in dialectics; they can quote the classics—but in their outlook on life many of them are infants. For they have been taught *to know*, but have not been allowed *to feel.* These students are friendly, pleasant, eager, but something is lacking—the emotional factor, the power to subordinate thinking to feeling. I talk to these of a world they have missed and go on missing. Their textbooks do not deal with human character, or with love, or with freedom, or with self-determination. And so the system goes on, aiming only at standards of book learning—goes on separating the head from the heart.

It is time that we were challenging the school's notion of work. It is taken for granted that every child should learn mathematics, history, geography, some science, a little art, and certainly literature. It is time we realized that the average young child is not much interested in any of these subjects.

I prove this with every new pupil. When told that the school is free, every new pupil cries, "Hurrah! You won't catch me doing dull arithmetic and things!"

I am not decrying learning. But learning should come after play. And learning should not be deliberately seasoned with play to make it palatable.

Learning is important—but not to everyone. Nijinsky could not pass his school exams in St. Petersburg, and he could not enter the State Ballet without passing those exams. He simply could not learn school subjects—his mind was elsewhere. They faked an exam for him, giving him the answers with the papers—so a biography says. What a loss to the world if Nijinsky had had to really pass those exams!

Creators learn what they want to learn in order to have the tools that their originality and genius demand. We do not know how much creation is killed in the classroom with its emphasis on learning.

I have seen a girl weep nightly over her geometry. Her mother wanted her to go to the university, but the girl's whole soul was artistic. I was delighted when I heard that she had failed her college entrance exams for the seventh time. Possibly, the mother would now allow her to go on the stage as she longed to do.

Some time ago, I met a girl of fourteen in Copenhagen who had spent three years in Summerhill and had spoken perfect English here.

"I suppose you are at the top of your class in English," I said.

She grimaced ruefully. "No, I'm at the bottom of my class, because I don't know English grammar," she said. I think that disclosure is about the best commentary on what adults consider education.

Indifferent scholars who, under discipline, scrape through college or university and become unimaginative teachers, mediocre doctors, and incompetent lawyers would possibly be good mechanics or excellent bricklayers. . . .

We have found that the boy who cannot or will not learn to read until he is, say, fifteen is always a boy with a mechanical bent who later on becomes a good engineer or electrician. I should not dare dogmatize about girls who never go to lessons, especially to mathematics and physics. Often such girls spend much time with needlework, and some, later on in life, take up dressmaking and designing. It is an absurd curriculum that makes a prospective dressmaker study quadratic equations or Boyle's Law.

Caldwell Cook wrote a book called *The Play Way*, in which he told how he taught English by means of play. It was a fascinating book, full of good things, yet I think it was only a new way of bolstering the theory that learning is of the utmost importance. Cook held that learning is so important that the pill should be sugared with play. This notion that unless a child is learning something the child is wasting his time is nothing less than a curse—a curse that blinds thousands of teachers and most school inspectors. Fifty years ago the watchword was "Learn through doing." Today the watchword is "Learn through playing." Play is thus used only as a means to an end, but to what good end I do not really know.

If a teacher sees children playing with mud, and he thereupon improves the shining moment by holding forth about river-bank erosion, what end has he in view? What child cares about river erosion? Many so-called educators believe that it does not matter what a child learns as long as he is *taught* something. And, of course, with schools as they are—just mass-production factories—what can a teacher do but teach something and come to believe that teaching, in itself, matters most of all? . . .

I wish I could see a bigger movement of rebellion among our younger teachers. Higher education and university degrees do not make a scrap of difference in confronting the evils of society. A learned neurotic is not any different than an unlearned neurotic.

In all countries, capitalist, socialist, or communist, elaborate schools are built to educate the young. But all the wonderful labs and workshops do nothing to help John or Peter or Ivan surmount the emotional damage and the social evils bred by the pressure on him from his parents, his schoolteachers, and the pressure of the coercive quality of our civilization.

SELF-GOVERNMENT

Summerhill is a self-governing school, democratic in form. Everything connected with social, or group, life, including punishment for social offenses, is settled by vote at the Saturday night General School Meeting.

Each member of the teaching staff and each child, regardless of his age, has one vote. My vote carries the same weight as that of a seven-year-old. . . .

Summerhill self-government has no bureaucracy. There is a different chairman at each meeting, appointed by the previous chairman, and the secretary's job is voluntary. Bedtime officers are seldom in office for more than a few weeks.

Our democracy makes laws—good ones, too. For example, it is forbidden to bathe in the sea without the supervision of lifeguards, who are always staff members. It is forbidden to climb on the roofs. Bedtimes must be kept or there is an automatic fine. Whether classes should be called off on the Thursday or on the Friday preceding a holiday is a matter for a show of hands at a General School Meeting.

The success of the meeting depends largely on whether the chairman is weak or strong, for to keep order among forty-five vigorous children is no easy task. The chairman has power to fine noisy citizens. Under a weak chairman, the fines are much too frequent.

The staff takes a hand, of course, in the discussions. So do I; although there are a number of situations in which I must remain neutral. In fact, I have seen a lad charged with an offense get away with it on a complete alibi, although he had privately confided to me that he had committed the offense. In a case like this, I must always be on the side of the individual.

I, of course, participate like anyone else when it comes to casting my vote on any issue or bringing up a proposal of my own. Here is a typical example. I once raised the question of whether football should be played in the lounge. The lounge is under my office, and I explained that I disliked the noise of football while I was working. I proposed that indoor football be forbidden. I was supported by some of the girls, by some older boys, and by most of the staff. But my proposal was not carried, and that meant my continuing to put up with the noisy scuffle of feet below my office. Finally, after much public disputation at several meetings, I did carry by majority approval the abolition of football in the lounge. And this is the way the minority generally gets its rights in our school democracy; it keeps demanding them. This applies to little children as much as it does to adults.

On the other hand, there are aspects of school life that do not come under the self-government regime. My wife plans the arrangements for bedrooms, provides the menu, sends out and pays bills. I appoint teachers and ask them to leave if I think they are not suitable.

The function of Summerhill self-government is not only to make laws but to discuss social features of the community as well. At the beginning of each term, rules about bedtime are made by vote. You go to bed according to your age. Then questions of general behavior come up. Sports committees have to be elected, as well as an end-of-term dance committee, a theater committee, bedtime officers, and downtown officers who report any disgraceful behavior out of the school boundaries. . . .

In a General School Meeting, all academic discussions are avoided. Children are eminently practical and theory bores them. They like concreteness, not abstraction. I once brought forward a motion that swearing be abolished by law, and I gave my reason. I had been showing a woman around with her little boy, a prospective pupil. Suddenly from upstairs came a very strong adjective. The mother hastily gathered up her son and went off in a hurry. "Why," I asked at a meeting, "should my income suffer because some fathead swears in front of a prospective parent? It isn't a moral question at all; it is purely financial. You swear and I lose a pupil."

My question was answered by a lad of fourteen. "Neill is talking rot," he said. "Obviously, if this woman was shocked, she didn't believe in Summerhill. Even if she had enrolled her boy, the first time he came home saying damn or hell, she would have taken him out of here." The meeting agreed with him, and my proposal was voted down.

A General School Meeting often has to tackle the problem of bullying. Our community is pretty hard on bullies; and I notice that the school government's bullying rule has been underlined on the bulletin board: "*All cases of bullying will be severely dealt with.*" Bullying is not so rife in Summerhill, however, as in strict schools, and the reason is not far to seek. Under adult discipline, the child becomes a hater. Since the child cannot express his hatred of adults with impunity, he takes it out on smaller or weaker boys. But this seldom happens in Summerhill. Very often, a charge of bullying when investigated amounts to the fact that Jenny called Peggy a lunatic.

Sometimes a case of stealing is brought up at the General School Meeting. There is never any punishment for stealing, but there is always reparation. Often children will come to me and say, "John stole some coins from David. Is this a case for psychology, or shall we bring it up?"

If I consider it a case for psychology, requiring individual attention, I tell them to leave it to me. If John is a happy, normal boy who has stolen something inconsequential, I allow charges to be brought against him. The worst that happens is that he is docked all of his pocket money until the debt is paid. . . .

Usually, the School Meeting's verdict is accepted by the culprit. However, if the verdict is unacceptable, the defendant may appeal, in which case the chairman will bring up the matter once again at the very end of the meeting. At such an appeal, the matter is considered more carefully, and generally the original verdict is tempered in view of the dissatisfaction of the defendant. The children realize that if the defendant feels he has been unfairly judged, there is a good chance that he actually has been.

No culprit at Summerhill ever shows any signs of defiance or hatred of the authority of his community. I am always surprised at the docility our pupils show when punished.

One term, four of the biggest boys were charged at the General School Meeting with doing an illegal thing—selling various articles from their wardrobes. The law forbidding this had been passed on the ground that such practices are unfair to the parents who buy the clothes and unfair as well to the school, because when children go home minus certain wearing apparel, the parents blame the school for carelessness. The four boys were punished by being kept on the grounds for four days and being sent to bed at eight each night. They accepted the sentence without a murmur. On Monday night, when everyone had gone to the town movies, I found Dick, one of the culprits, in bed reading.

"You are a chump," I said. "Everyone has gone to the movies. Why don't you get up?"

"Don't try to be funny," he said.

This loyalty of Summerhill pupils to their own democracy is amazing. It has no fear in it, and no resentment. I have seen a boy go through a long trial for some antisocial act, and I have seen him sentenced. Often, the boy who has just been sentenced is elected chairman for the next meeting.

The sense of justice that children have never ceases to make me marvel. And their administrative ability is great. As education, self-government is of infinite value.

Certain classes of offenses come under the automatic fine rule. If you ride another's bike without permission, there is an automatic fine of sixpence. Swearing in town (but you can swear as much as you like on the school grounds), bad behavior in the movies, climbing on roofs, throwing food in the dining room—these and other infractions of rules carry automatic fines.

Punishments are nearly always fines: hand over pocket money for a week or miss a movie.

An oft-heard objection to children acting as judges is that they punish too harshly. I find it not so. On the contrary, they are very lenient. On no occasion has there been a harsh sentence at Summerhill. And invariably the punishment has some relation to the crime.

Three small girls were disturbing the sleep of others. Punishment: they must go to bed an hour earlier every night for a week. Two boys were accused of throwing clods at other boys. Punishment: they must cart clods to level the hockey field.

Often the chairman will say, "The case is too silly for words," and decide that nothing should be done. . . .

Priggish behavior at meetings is rare. Any sign of priggishness is frowned upon by the community. A boy of eleven, a strong exhibitionist, used to get up and draw attention to himself by making long involved remarks of obvious irrelevance. At least he tried to, but the meeting shouted him down. The young have a sensitive nose for insincerity.

At Summerhill we have proved, I believe, that self-government works. In fact, the school that has no self-government should not be called a progressive school. It is a compromise school. You cannot have freedom unless children feel completely free to govern their own social life. When there is a boss, there is no real freedom. This applies even more to the benevolent boss than to the disciplinarian. The child of spirit can rebel against the hard boss, but the soft boss merely makes the child impotently soft and unsure of his real feelings.

Good self-government in a school is possible only when there is a sprinkling of older pupils who like a quiet life and fight the indifference or opposition of the gangster age. These older youngsters are often outvoted, but it is they who really believe in and want self-government. Children up to, say, twelve, on the other hand, will not run good self-government on their own, because they have not reached the social age. Yet at Summerhill, a seven-year-old rarely misses a General Meeting. . . .

In Summerhill, there is one perennial problem that can never be solved; it might be called the problem of *the individual vs. the community*. Both staff and pupils get exasperated when a gang of little girls led by a problem girl annoy some people, throw water on others, break the bedtime laws, and make themselves a perpetual nuisance. Jean, the leader, is attacked in a General Meeting. Strong words are used to condemn her misuse of freedom. . . .

A visitor, a psychologist, said to me: "It is all wrong. The girl's face is an unhappy one; she has never been loved, and all this open criticism makes her feel more unloved than ever. She needs love, not opposition."

"My dear woman," I replied, "we *have* tried to change her with love. For weeks, we rewarded her for being antisocial. We have shown her affection and tolerance, and she has not reacted. Rather, she has looked on us as simpletons, easy marks for her aggression. We cannot sacrifice the entire community to one individual."

I do not know the complete answer. I know that when Jean is fifteen, she will be a social girl and not a gang leader. I pin my faith on public opinion. No child will go on for years being disliked and criticized. As for the condemnation by the school meeting, one simply cannot sacrifice other children to one problem child.

Once, we had a boy of six who had a miserable life before he came to Summerhill. He was a violent bully, destructive and full of hate. The four- and five-year-olds suffered and wept. The community had to do something to protect them; and in doing so, it had to be against the bully. The mistakes of two parents could not be allowed to react on other children whose parents had given them love and care.

On a very few occasions, I have had to send a child away because the others were finding the school a hell because of him. I say this with regret, with a vague feeling of failure, but I could see no other way.

Have I had to alter my views on self-government in these long years? On the whole, no. I could not visualize Summerhill without it. It has always been popular. It is our show piece for visitors. But that, too, has its drawbacks, as when a girl of fourteen whispered to me at a meeting, "I meant to bring up about girls blocking the toilets by putting sanitary napkins in them, but look at all these visitors." I advised her to damn the visitors and bring the matter up—which she did.

The educational benefit of practical civics cannot be over-emphasized. At Summerhill, the pupils would fight to the death for their right to govern themselves. In my opinion, one weekly General School Meeting is of more value than a week's curriculum of school subjects. It is an excellent theater for practicing public speaking, and most of the children speak well and without self-consciousness. I have often heard sensible speeches from children who could neither read nor write.

I cannot see an alternative method to our Summerhill democracy. It may be a fairer democracy than the political one, for children are pretty charitable to each other, and have no vested interests to speak of. Moreover, it is a more genuine democracy because laws are made at an open meeting, and the question of uncontrollable elected delegates does not arise.

After all, it is the broad outlook that free children acquire that makes self-government so important. Their laws deal with essentials, not appearances. The laws governing conduct in the town are the compromise with a less free civilization. "Downtown"—the outside world—wastes its precious energy in worrying over trifles. As if it matters in the scheme of life whether you wear dressy clothes or say hell. Summerhill, by getting away from the outward nothings of life, can have and does have a community spirit that is in advance of its time. True, it is apt to call a spade a damn shovel, but any ditchdigger will tell you with truth that a spade *is* a damn shovel. . . .

Walden Two

B. F. Skinner[2]

Another proposed way of improving human nature and human society is to control carefully all the influences which play on the developing child so that he gradually becomes the kind of person desired by those in charge of his education. The great prototype of all schemes of this kind is found in Plato's *Republic*. In the *Republic*, a plan is outlined for the most careful control of the educational experiences of children—even to the stories they will hear and the songs they will sing.

Walden Two, the selection that follows, is, like the *Republic*, a Utopia. It is a mythical picture of a society deliberately planned to achieve certain ends. Children in *Walden Two* are not left to grow "according to nature." Their learning, and in fact the whole structure of their personalities, is carefully regulated according to "scientific principles." The basic theory is that a good man does not just *happen*. He is *produced* by certain conditions and these conditions must be provided and controlled precisely.

How does Skinner differ from Neill in his conception of human nature? Does Skinner give more emphasis to learning or to innate factors? Do you think that *Walden Two*, the "good society," could be successful in producing "the good man"? Who is to decide what is good?

The quarters for children from one to three consisted of several small playrooms with Lilliputian furniture, a child's lavatory, and a dressing and locker room. Several small sleeping rooms were operated on the same principle as the baby-cubicles. The temperature and the humidity were controlled so that clothes or bedclothing were not needed. The cots were double-decker arrangements of the plastic mattresses we had seen in the cubicles. The children slept unclothed, except for diapers. There were more beds than necessary, so that the children could be grouped according to developmental age or exposure to contagious diseases or need for supervision, or for educational purposes.

We followed Mrs. Nash to a large screened porch on the south side of the building, where several children were playing in sandboxes and on swings and climbing apparatuses. A few wore "training pants"; the rest were naked. Beyond the porch was a grassy play yard enclosed by closely trimmed hedges, where other children, similarly undressed, were at play. Some kind of marching game was in progress.

As we returned, we met two women carrying food hampers. They spoke to Mrs. Nash and followed her to the porch. In a moment five or six children came running into the playrooms and were soon using the lavatory and dressing themselves. Mrs. Nash explained that they were being taken on a picnic.

---

[2] from Walden Two by B. F. Skinner, pp. 82-105. Copyright 1948 by B. F. Skinner. Reprinted by permission of The Macmillan Company.

"What about the children who don't go?" said Castle. "What do you do about the green-eyed monster?"

Mrs. Nash was puzzled.

"Jealousy. Envy," Castle elaborated. "Don't the children who stay home ever feel unhappy about it?"

"I don't understand," said Mrs. Nash.

"And I hope you won't try," said Frazier, with a smile. "I'm afraid we must be moving along."

We said good-bye, and I made an effort to thank Mrs. Nash, but she seemed to be puzzled by that too, and Frazier frowned as if I had committed some breach of good taste.

"I think Mrs. Nash's puzzlement," said Frazier, as we left the building, "is proof enough that our children are seldom envious or jealous. Mrs. Nash was twelve years old when Walden Two was founded. It was a little late to undo her early training, but I think we were successful. She's a good example of the Walden Two product. She could probably recall the experience of jealousy, but it's not part of her present life."

"Surely that's going too far!" said Castle. "You can't be so godlike as all that! You must be assailed by emotions just as much as the rest of us!"

"We can discuss the question of godlikeness later, if you wish," replied Frazier. "As to emotions—we aren't free of them all, nor should we like to be. But the meaner and more annoying—the emotions which breed unhappiness—are almost unknown here, like unhappiness itself. We don't need them any longer in our struggle for existence, and it's easier on our circulatory system, and certainly pleasanter, to dispense with them."

"If you've discovered how to do that, you are indeed a genius," said Castle. He seemed almost stunned as Frazier nodded assent. "We all know that emotions are useless and bad for our peace of mind and our blood pressure," he went on. "But how arrange things otherwise?"

"We arrange them otherwise here," said Frazier. He was showing a mildness of manner which I was coming to recognize as a sign of confidence.

"But emotions are—fun!" said Barbara. "Life wouldn't be worth living without them."

"Some of them, yes," said Frazier. "The productive and strengthening emotions—joy and love. But sorrow and hate—and the high-voltage excitements of anger, fear, and rage—are out of proportion with the needs of modern life, and they're wasteful and dangerous. Mr. Castle has mentioned jealousy—a minor form of anger, I think we may call it. Naturally we avoid it. It has served its purpose in the evolution of man; we've no further use for it. If we allowed it to persist, it would only sap the life out of us. In a cooperative society there's no jealousy because there's no need for jealousy."

"That implies that you all get everything you want," said Castle. "But what about social possessions? Last night you mentioned the young man who chose a particular girl or profession. There's still a chance for jealousy there, isn't there?"

"It doesn't imply that we get everything we want," said Frazier. "Of course we don't. But jealousy wouldn't help. In a competitive world there's some point to it. It energizes one to attack a frustrating condition. The impulse and the added energy are an advantage. Indeed, in a competitive world emotions work all too well. Look at the singular lack of success of the complacent man. He enjoys a more serene life, but it's less likely to be a fruitful one. The world isn't ready for simple pacifism or Christian humility, to cite two cases in point. Before you can safely train out the destructive and wasteful emotions, you must make sure they're no longer needed."

"How do you make sure that jealousy isn't needed in Walden Two?" I said.

"In Walden Two problems can't be solved by attacking others," said Frazier. . . .

"That's not the same as eliminating jealousy, though," I said.

"Of course it's not. But when a particular emotion is no longer a useful part of a behavioral repertoire, we proceed to eliminate it."

"Yes, but how?"

"It's simply a matter of behavioral engineering," said Frazier.

"Behavioral engineering?"

"You're baiting me, Burris. You know perfectly well what I mean. The techniques have been available for centuries. We use them in education and in the psychological management of the community. . . ."

"Each of us," Frazier began, "is engaged in a pitched battle with the rest of mankind."

"A curious premise for a Utopia," said Castle. "Even a pessimist like myself takes a more hopeful view than that."

"You do, you do," said Frazier. "But let's be realistic. Each of us has interests which conflict with the interests of everybody else. That's our original sin, and it can't be helped. Now, 'everybody else' we call 'society.' It's a powerful opponent, and it always wins. Oh, here and there an individual prevails for a while and gets what he wants. Sometimes he storms the culture of a society and changes it slightly to his own advantage. But society wins in the long run, for it has the advantage of numbers and of age. Many prevail against one, and men against a baby. Society attacks early, when the individual is helpless. It enslaves him almost before he has tasted freedom. The 'ologies' will tell you how it's done. Theology calls it building a conscience or developing a spirit of selflessness. Psychology calls it the growth of the super-ego.

"Considering how long society has been at it, you'd expect a better job. But the campaigns have been badly planned and the victory has never been secure. The behavior of the individual has been shaped according to revelations of 'good conduct,' never as the result of experimental study. But why not experiment? The questions are simple enough. What's the best behavior for the individual so far as the group is concerned? And how can the individual be induced to behave in that way? Why not explore these questions in a scientific spirit?

"We could do just that in Walden Two. We had already worked out a code of conduct—subject, of course, to experimental modification. The code would keep things running smoothly if everybody lived up to it. Our job was to see that everybody did. Now, you can't get people to follow a useful code by making them into so many jacks-in-the-box. You can't foresee all future circumstances, and you can't specify adequate future conduct. You don't know what will be required. Instead you have to set up certain behavioral processes which will lead the individual to design his own 'good' conduct when the time comes. We call that sort of thing 'self-control.' But don't be misled, the control always rests in the last analysis in the hands of society.

"One of our Planners, a young man named Simmons, worked with me. It was the first time in history that the matter was approached in an experimental way. . . . Simmons and I began by studying the great works on morals and ethics—Plato, Aristotle, Confucius, the New Testament, the Puritan divines, Machiavelli, Chesterfield, Freud—there were scores of them. We were looking for any and every method of shaping human behavior by imparting techniques of self-control. Some techniques were obvious enough, for they had marked turning points in human history. 'Love your enemies' is an example—a psychological invention for easing the lot of an oppressed people. The severest trial of oppression is the constant rage which one suffers at the thought of the oppressor. What Jesus discovered was how to avoid these inner devastations. His technique was to *practice the opposite emotion.* If a man can succeed in 'loving his enemies' and 'taking no thought for the morrow,' he will no longer be assailed by hatred of the oppressor or rage at the loss of his freedom or possessions. He may not get his freedom or possessions back, but he's less miserable. It's a difficult lesson. It comes late in our program."

"I thought you were opposed to modifying emotions and instincts until the world was ready for it," said Castle. "According to you, the principle of 'love your enemies' should have been suicidal."

"It would have been suicidal, except for an entirely unforeseen consequence. Jesus must have been quite astonished at the effect of his discovery. We are only just beginning to understand the power of love because we are just beginning to understand the weakness of force and aggression. But the science of behavior is clear about all that now. . . .

"When Simmons and I had collected our techniques of control, we had to discover how to teach them. That was more difficult. Current educational practices were of little value, and religious practices scarcely any better. Promising paradise or threatening hell-fire is, we assumed, generally admitted to be unproductive. It is based upon a fundamental fraud which, when discovered, turns the individual against society and nourishes the very thing it tries to stamp out. What Jesus offered in return for loving one's enemies was heaven *on earth,* better known as peace of mind.

"We found a few suggestions worth following in the practices of the clinical psychologist. We undertook to build a tolerance for annoying experiences. The sunshine of midday is extremely painful if you come from a dark room, but take it in easy stages and you can avoid pain altogether. The analogy can be misleading, but in much the same way it's possible to build a tolerance to painful or distasteful stimuli, or to frustration, or to situations which arouse fear, anger, or rage. Society and nature throw these annoyances at the individual with no regard for the development of tolerances. Some achieve tolerances; most fail. Where would the science of immunization be if it followed a schedule of accidental dosages?

"Take the principle of 'Get thee behind me, Satan,' for example," Frazier continued. "It's a special case of self-control by altering the environment. Subclass A_3, I believe. We give each child a lollipop which has been dipped in powdered sugar so that a single touch of the tongue can be detected. We tell him he may eat the lollipop later in the day, provided it hasn't already been licked. Since the child is only three or four, it is a fairly diff—"

"Three or four!" Castle exclaimed.

"All our ethical training is completed by the age of six," said Frazier quietly. "A simple principle like putting temptation out of sight would be acquired before four. But at such an early age the problem of not licking the lollipop isn't easy. Now, what would you do, Mr. Castle, in a similar situation?"

"Put the lollipop out of sight as quickly as possible."

"Exactly. I can see you've been well trained. Or perhaps you discovered the principle for yourself. We're in favor of original inquiry wherever possible, but in this case we have a more important goal and we don't hesitate to give verbal help. First of all, the children are urged to examine their own behavior while looking at the lollipops. This helps them to recognize the need for self-control. Then the lollipops are concealed, and the children are asked to notice any gain in happiness or any reduction in tension. Then a strong distraction is arranged—say, an interesting game. Later the children are reminded of the candy and encouraged to examine their reaction. The value of the distraction is generally obvious. Well, need I go on? When the experiment is repeated a day or so later, the children all run with the lollipops to their lockers and do exactly what Mr. Castle would do—a sufficient indication of the success of our training."

"I wish to report an objective observation of my reaction to your story," said Castle, controlling his voice with great precision. "I find myself revolted by this display of sadistic tyranny."

"I don't wish to deny you the exercise of an emotion which you seem to find enjoyable," said Frazier. "So let me go on. Concealing a tempting but forbidden object is a crude solution. For one thing, it's not always feasible. We want a sort of psychological concealment—covering up the candy by paying no attention. In a later experiment the children wear their lollipops like crucifixes for a few hours."

"'Instead of the cross, the lollipop,
About my neck was hung,'"

said Castle.

"I wish somebody had taught me that, though," said Rodge, with a glance at Barbara.

"Don't we all?" said Frazier. "Some of us learn control, more or less by accident. The rest of us go all our lives not even understanding how it is possible, and blaming our failure on being born the wrong way."

"How do you build up a tolerance to an annoying situation?" I said.

"Oh, for example, by having the children 'take' a more and more painful shock, or drink cocoa with less and less sugar in it until a bitter concoction can be savored without a bitter face."

"But jealousy or envy—you can't administer them in graded doses," I said.

"And why not? Remember, we control the social environment, too, at this age. That's why we get our ethical training in early. Take this case. A group of children arrive home after a long walk tired and hungry. They're expecting supper; they find, instead, that it's time for a lesson in self-control: they must stand for five minutes in front of steaming bowls of soup.

"The assignment is accepted like a problem in arithmetic. Any groaning or complaining is a wrong answer. Instead, the children begin at once to work upon themselves to avoid any unhappiness during the delay. One of them may make a joke of it. We encourage a sense of humor as a good way of not taking an annoyance seriously. The joke won't be much, according to adult standards—perhaps the child will simply pretend to empty the bowl of soup into his upturned mouth. Another may start a song with many verses. The rest join in at once, for they've learned that it's a good way to make time pass."

Frazier glanced uneasily at Castle, who was not to be appeased.

"That also strikes you as a form of torture, Mr. Castle?" he asked.

"I'd rather be put on the rack," said Castle.

"Then you have by no means had the thorough training I supposed. You can't imagine how lightly the children take such an experience. It's a rather severe biological frustration, for the children are tired and hungry and they must stand and look at food; but it's passed off as lightly as a five-minute delay at curtain time. We regard it as a fairly elementary test. Much more difficult problems follow."

"I suspected as much," muttered Castle.

"In a later stage we forbid all social devices. No songs, no jokes—merely silence. Each child is forced back upon his own resources—a very important step."

"I should think so," I said. "And how do you know it's successful? You might produce a lot of silently resentful children. It's certainly a dangerous stage."

"It is, and we follow each child carefully. If he hasn't picked up the necessary techniques, we start back a little. A still more advanced stage"—Frazier glanced again at Castle, who stirred uneasily—"brings me to my point. When it's time to sit down to the soup, the children count off—heads and tails. Then a coin is tossed and if it comes up heads, the 'heads' sit down and eat. The 'tails' remain standing for another five minutes."

Castle groaned.

"And you call that envy?" I said.

"Perhaps not exactly," said Frazier. "At least there's seldom any aggression against the lucky ones. The emotion, if any, is directed against Lady Luck herself, against the toss of the coin. That, in itself, is a lesson worth learning, for it's the only direction in which emotion has a surviving chance to be useful. And resentment toward things in general, while perhaps just as silly as personal aggression, is more easily controlled. Its expression is not socially objectionable." . . .

"May you not inadvertently teach your children some of the very emotions you're trying to eliminate?" I said. "What's the effect, for example, of finding the anticipation of a warm supper suddenly thwarted? Doesn't that eventually lead to feelings of uncertainty, or even anxiety?"

"It might. We had to discover how often our lessons could be safely administered. But all our schedules are worked out experimentally. We watch for undesired consequences just as any scientist watches for disrupting factors in his experiments.

"After all, it's a simple and sensible program," he went on in a tone of appeasement. "We set up a system of gradually increasing annoyances and frustrations against a background of complete serenity. An easy environment is made more and more difficult as the children acquire the capacity to adjust."

"But *why?*" said Castle. "Why these deliberate unpleasantnesses—to put it mildly? I must say I think you and your friend Simmons are really very subtle sadists."

"You've reversed your position, Mr. Castle," said Frazier in a sudden flash of anger with which I rather sympathized. Castle was calling names, and he was also being unaccountably and perhaps intentionally obtuse. "A while ago you accused me of breeding a race of softies," Frazier continued. "Now you object to toughening them up. But what you don't understand is that these potentially unhappy situations are never very annoying. Our schedules make sure of that. You wouldn't understand, however, because you're not so far advanced as our children."

Castle grew black.

"But what do your children get out of it?" he insisted, apparently trying to press some vague advantage in Frazier's anger. . . .

"If I must spell it out," Frazier began with a deep sigh, "what they get is escape from the petty emotions which eat the heart out of the unprepared. They get the satisfaction of pleasant and profitable social relations on a scale almost undreamed of in the world at large. They get immeasurably increased efficiency, because they can stick to a job without suffering the aches and pains which soon beset most of us. They get new horizons, for they are spared the emotions characteristic of frustration and failure. They get—" His eyes searched the branches of the trees. "Is that enough?" he said at last.

"And the community must gain their loyalty," I said, "when they discover the fears and jealousies and diffidences in the world at large."

"I'm glad you put it that way," said Frazier. "You might have said that they must feel superior to the miserable products of our public schools. But we're at pains to keep any feeling of superiority or contempt under control, too. Having suffered most acutely from it myself, I put the subject first on our agenda. We carefully avoid any joy in a personal triumph which means the personal failure of somebody else. We take no pleasure in the sophistical, the disputative, the dialectical." He threw a vicious glance at Castle. "We don't use the motive of domination, because we are always thinking of the whole group. We could motivate a few geniuses that way—it was certainly my own motivation—but we'd sacrifice some of the happiness of everyone else. Triumph over nature and over oneself, yes. But over others, never."

"You've taken the mainspring out of the watch," said Castle flatly.

"That's an experimental question, Mr. Castle, and you have the wrong answer." . . .

"Are your techniques really so very new?" I said hurriedly. "What about the primitive practice of submitting a boy to various tortures before granting him a place among adults? What about the disciplinary techniques of Puritanism? Or of the modern school, for that matter?"

"In one sense you're right," said Frazier. "And I think you've nicely answered Mr. Castle's tender concern for our little ones. The unhappinesses we deliberately impose are far milder than the normal unhappinesses from which we offer protection. Even at the height of our ethical training, the unhappiness is ridiculously trivial—to the well-trained child.

"But there's a world of difference in the way we use these annoyances," he continued. "For one thing, we don't punish. We never administer an unpleasantness in the hope of repressing or eliminating undesirable behavior. But there's another difference. In most cultures the child meets up with annoyances and reverses of uncontrolled magnitude. Some are imposed in the name of discipline by persons in authority. Some, like hazings, are condoned though not authorized. Others are merely accidental. No one cares to, or is able to, prevent them.

"We all know what happens. A few hardy children emerge, particularly those who have got their unhappiness in doses that could be swallowed. They become brave men. Others become sadists or masochists of varying degrees of pathology. Not having conquered a painful environment, they become preoccupied with pain and make a devious art of it. Others submit—and hope to inherit the earth. The rest—the cravens, the cowards—live in fear for the rest of their lives. And that's only a single field—the reaction to pain. I could cite a dozen parallel cases. The optimist and the pessimist, the contented and the disgruntled, the loved and the unloved, the ambitious and the discouraged—these are only the extreme products of a miserable system.

"Traditional practices are admittedly better than nothing," Frazier went on. "Spartan or Puritan—no one can question the occasional happy result. But the whole system rests upon the wasteful principle of selection. The English public school of the nineteenth century produced brave men—by setting up almost insurmountable barriers and making the most of the few who came over. But selection isn't education. Its crops of brave men will always be small, and the waste enormous. Like all primitive principles, selection serves in place of education only through a profligate use of material. Multiply extravagantly and select with rigor. It's the philosophy of the 'big litter' as an alternative to good child hygiene.

"In Walden Two we have a different objective. We make every man a brave man. They all come over the barriers. Some require more preparation than others, but they all come over. The traditional use of adversity is to select the strong. We control adversity to build strength. And we do it deliberately, no matter how sadistic Mr. Castle may think us, in order to prepare for adversities which are beyond control. Our children eventually experience the 'heartache and the thousand natural shocks that flesh is heir to.' It would be the cruelest possible practice to protect them as long as possible, especially when we *could* protect them so well."

Frazier held out his hands in an exaggerated gesture of appeal.

"What alternative *had* we?" he said, as if he were in pain. "What else could we do? For four or five years we could provide a life in which no important need would go unsatisfied, a life practically free of anxiety or frustration or annoyance. What would *you* do? Would you let the child enjoy this paradise with no thought for the future—like an idolatrous and pampering mother? Or would you relax control of the environment and let the child meet accidental frustrations? *But what is the virtue of accident?* No, there was only one course open to us. We had to *design* a series of adversities, so that the child would develop the greatest possible self-control. Call it deliberate, if you like, and accuse us of sadism; there was no other course." . . .

The living quarters and daily schedules of the older children furnished a particularly good example of behavioral engineering. At first sight they seemed wholly casual, almost haphazard, but as Frazier pointed out their significant features and the consequences of each, I began to make out a comprehensive, almost Machiavellian design.

The children passed smoothly from one age group to another, following a natural process of growth and avoiding the abrupt changes of the home-and-school system. The arrangements were such that each child emulated children slightly older than himself and hence derived motives and patterns for much of his early education without adult aid.

The control of the physical and social environment, of which Frazier had made so much, was progressively relaxed—or, to be more exact, the control was transferred from the authorities to the child himself and to the other members of his group. . . .

When we returned to our shade tree, I was primed with questions, and so, I am sure, was Castle. But Frazier had other plans. He had either forgotten how remarkable was the spectacle we had just witnessed, or he was intentionally allowing our wonderment and curiosity to ferment. He began from a very different point of view.

"When we discussed the economics of community life," he said, "I should have mentioned education. Teachers are, of course, workers, and I'm willing to defend all that I said about our economic advantage as specifically applied to education. God knows, the outside world is not exactly profligate in the education of its children. It doesn't spend much on equipment or teachers. Yet in spite of this penny-wise policy, there's still enormous waste. A much better education would cost less if society were better organized.

"We can arrange things more expeditiously here because we don't need to be constantly reeducating. The ordinary teacher spends a good share of her time changing the cultural and intellectual habits which the child acquires from its family and surrounding culture. Or else the teacher duplicates home training, in a complete waste of time. Here we can almost say that the school *is* the family, and vice versa.

"We can adopt the best educational methods and still avoid the administrative machinery which schools need in order to adjust to an unfavorable social structure. We don't have to worry about standardization in order to permit pupils to transfer from one school to another, or to appraise or control the work of particular schools. We don't need 'grades.' Everyone knows that talents and abilities don't develop at the same rate in different children. A fourth-grade reader may be a sixth-grade mathematician. The grade is an administrative device which does violence to the nature of the developmental process. Here the child advances as rapidly as he likes in any field. No time is wasted in forcing him to participate in, or be bored by, activities he has outgrown. And the backward child can be handled more efficiently too.

"We also don't require all our children to develop the same abilities or skills. We don't insist upon a certain set of courses. I don't suppose we have a single child who has had a 'secondary school education,' whatever that means. But they've all developed as rapidly as advisable, and they're well educated in many useful respects. By the same token we don't waste time in teaching the unteachable. The fixed education represented by a diploma is a bit of conspicuous waste which has no place in Walden Two. We don't attach an economic or honorific value to education. It has its own value or none at all. .

"Since our children remain happy, energetic, and curious, we don't need to teach 'subjects' at all. We teach only the techniques of learning and thinking. As for geography, literature, the sciences—we give our children opportunity and guidance, and they learn them for themselves. In that way we dispense with half the teachers required under the old system, and the education is incomparably better. Our children aren't neglected, but they're seldom, if ever, *taught* anything.

"Education in Walden Two is part of the life of the community. We don't need to resort to trumped-up life experiences. Our children begin to work at a very early age. It's no hardship; it's accepted as readily as sport or play. And a good share of our education goes on in workshops, laboratories, and fields. It's part of the Walden Two Code to encourage children in all the arts and crafts. We're glad to spend time in instructing them, for we know it's important for the future of Walden Two and our own security."

"What about higher education?" I said.

"We aren't equipped for professional training, of course," said Frazier. "Those who want to go on to graduate study in a university are given special preparation. Entrance requirements are always tyrannical, though perhaps inevitable in a mass-production system. So far, we've been able to find graduate schools that will take our young people as special students, and as they continue to make excellent records, we expect fewer difficulties. If worse comes to worst, we shall organize as a college and get ourselves accredited. But can you image the stupid changes we should have to make?" Frazier snorted with impatience. "Oh, well. Tongue in cheek. Tongue in cheek."

"Don't you mean 'chin up?' " I asked.

"We'd have to set up a 'curriculum,' require a 'C average,' a 'foreign language,' 'so many years of residence,' and so on, and so on. It would be most amusing. No, 'tongue in cheek' was what I meant." . . .

"I'm still skeptical," said Castle. "Of course, I'm still at a disadvantage in arguing against an accomplished fact." Frazier nodded his head violently. "But not everything has been accomplished," Castle went on. "Your pleasant schoolrooms, your industrious and contented children—these we must accept. But it would take us a long time to find out how well-educated your children really are, according to our standards." Frazier made a move to speak, but Castle hurried on. "I'll admit these standards won't tell us everything. We couldn't ask your children to take our examinations, because they haven't been learning the same things, even in such a field as French. Your students would probably do no better on a second-year French examination than the average Parisian. I'll admit that, and I confess with all the humility I can muster that the kind of learning you've described is the better—if a comparison is possible. It's the ideal which every college teacher glimpses now and then when he looks up from the dance of death in which he has been caught. But I can't swallow the system you've described because I don't see what keeps the motors running. Why do your children learn anything at all? What are your substitutes for our standard motives?"

"Your 'standard motives'—exactly," said Frazier. "And there's the rub. An educational institution spends most of its time, not in presenting facts or imparting techniques of learning, but in trying to make its students learn. It has to create spurious needs. Have you ever stopped to analyze them? What are the 'standard motives,' Mr. Castle?"

"I must admit they're not very attractive," said Castle. "I suppose they consist of fear of one's family in the event of low grades or expulsion, the award of grades and honors, the snob value of a cap and gown, the cash value of a diploma."

"Very good, Mr. Castle," said Frazier. "You're an honest man. And now to answer your question—our substitute is simply the absence of these devices. We have had to *uncover* the worthwhile and truly productive motives—the motives which inspire creative work in science and art outside the academies. No one asks how to motivate a baby. A baby naturally explores everything it can get at, unless restraining forces have already been at work. And this tendency doesn't die out, it's *wiped* out.

"We made a survey of the motives of the unhampered child and found more than we could use. Our engineering job was to *preserve* them by fortifying the child against discouragement. We introduce discouragement as carefully as we introduce any other emotional situation, beginning at about six months. Some of the toys in our air-conditioned cubicles are designed to build perseverance. A bit of a tune from a music box, or a pattern of flashing lights, is arranged to follow an appropriate response—say, pulling on a ring. Later the ring must be pulled twice, later still three or five or ten times. It's possible to build up fantastically perseverative behavior without encountering frustration or rage. It may not surprise you to learn that some of our experiments miscarried; the resistance to discouragement became almost stupid or pathological. One takes some risks in work of this sort, of course. Fortunately, we were able to reverse the process and restore the children to a satisfactory level.

"Building a tolerance for discouraging events proved to be all we needed," Frazier continued. "The motives in education, Mr. Castle, are the motives in all human behavior. Education should be only life itself. We don't need to create motives. We avoid the spurious academic needs you've just listed so frankly, and also the escape from threat so widely used in our civil institutions. We appeal to the curiosity which is characteristic of the unrestrained child, as well as the alert and inquiring adult. We appeal to that drive to control the environment which makes a baby continue to crumple a piece of noisy paper and the scientist continue to press forward with his predictive analyses of nature. We don't need to motivate anyone by creating spurious needs."

"I've known a few men with the kind of motivation you mean," I said.

"The contemporary culture produces a few by accident," said Frazier quickly, "just as it produces a few brave or happy men."

"But I've never understood them," I said. . . .

"Why should you, any more than unhappy people can understand the happy ones?"

"But isn't there a real need for the spurious satisfactions?" I said. "Little signs of personal success, money—personal domination, too, if you like. Most of what I do, I do to avoid undesirable consequences, to evade unpleasantnesses, or to reject or attack forces which interfere with my freedom."

"All the unhappy motives," said Frazier.

"Unhappy, perhaps, but powerful. I think the very thing which seems most unpromising in your system is its happiness. Your people are going to be too happy, too successful. But why won't they just go to sleep? Can we expect real achievements from them? Haven't the great men of history been essentially unhappy or maladjusted or neurotic?"

"I have little interest in conclusions drawn from history," said Frazier, "but if you must play that game, I'll play it too. For every genius you cite whose greatness seems to have sprung from a neurosis, I will undertake to cite similar acts of greatness without neurosis. Turn it around and I'll agree. A man with a touch of genius will be so likely to attack existing institutions that he'll be called unbalanced or neurotic. The only geniuses produced by the chaos of society are those who do something about it." Frazier paused, and I wondered if he were thinking of himself. "Chaos breeds geniuses. It offers a man something to be a genius about. But here, we have better things to do."

"But what about the cases where unhappiness has led to artistic or scientific achievement?" I asked.

"Oh, I daresay a few first-rate sonnets would have remained unwritten had the lady yielded," said Frazier. "But not so many, at that. Not many works of art can be traced to the lack of satisfaction of the basic needs. It's not plain sex that gives rise to art, but personal relations which are social or cultural rather than biological. Art deals with something less obvious than the satisfaction to be found in a square meal.... We shall never produce so satisfying a world that there will be no place for art," he continued. "On the contrary, Walden Two has demonstrated very nicely that as soon as the simple necessities of life are obtained with little effort, there's an enormous welling up of artistic interest. And least of all do we need to fear that simple satisfactions will detract from the scientific conquest of the world. What scientist worth the name is engaged, as scientist, in the satisfaction of his own basic needs? He may be thinking of the basic needs of others, but his own motives are clearly cultural. There can be no doubt of the survival value of the inquiring spirit—of curiosity, of exploration, of the need to dominate media, of the urge to control the forces of nature. The world will never be wholly known, and man can't help trying to know more and more of it."

The topic seemed to have grown too vague to stimulate further discussion, but Castle soon offered a substitute.

"I'm torn between two questions which seem incompatible yet equally pressing," he said. "What do you do about differences among your children in intellect and talent? And what do you do to avoid producing a lot of completely standardized young people? Which question should I ask, and what's your answer?"

"They're both good questions," said Frazier, "and quite compatible." I made a move to speak and Frazier said, "I see that Mr. Burris wants to help with the answers."

"My guess is," I said, "that differences are due to environmental and cultural factors and that Mr. Frazier has no great problem to solve. Give all your children the excellent care we have just been witnessing and your differences will be negligible."

"No, you're wrong, Burris," said Frazier. "That's one question we have answered to our satisfaction. Our ten-year-olds have all had the same environment since birth, but the range of their IQ's is almost as great as in the population at large. This seems to be true of other abilities and skills as well."

"And of physical prowess, of course," said Castle. . . .

"All differences are physical, my dear Mr. Castle. We think with our bodies, too. You might have replied that differences in prowess have always been obvious and impossible to conceal, while other differences have customarily been disguised for the sake of prestige and family pride. We accept our gross physical limitations without protest and are reasonably happy in spite of them, but we may spend a lifetime trying to live up to a wholly false conception of our powers in another field, and suffer the pain of a lingering failure. Here we accept ourselves as we are."

"Aren't the untalented going to be unhappy?"

"But we don't go in for personal rivalry; individuals are seldom compared. We never develop a taste much beyond a talent. Our parents have little reason to misrepresent their children's abilities to themselves or others. It's easy for our children to accept their limitations—exactly as they have always accepted the gross differences which Mr. Castle called physical prowess. At the same time our gifted children aren't held back by organized mediocrity. We don't throw our geniuses off balance. The brilliant but unstable type is unfamiliar here. Genius can express itself." . . .

Frazier stood up and straightened his knees with care. The rest of us also got up—except Castle, who stayed stubbornly in his place.

"I can't believe," he began, looking at the ground and apparently not caring whether he was heard or not, "I can't believe you can really get spontaneity and freedom through a system of tyrannical control. Where does initiative come in? When does the child begin to think of himself as a free agent? What is freedom, anyway, under such a plan?"

"Freedom, freedom," said Frazier, stretching his arms and neck and almost singing the words, as if he were uttering them through a yawn. "Freedom is a question, isn't it? But let's not answer it now. Let's let it ring, shall we? . . ."

School Children's Problems as Related to Parental Factors

Jack Rouman[3]

The following article deals with a real community and the problems of its children. In experimental studies such as this, the large global problems are left behind for specific examination of special issues.

It is commonly held that working mothers contribute to disturbance in children. Teachers often say, "Well, it's no wonder he is in such bad shape. His mother works." Causes are easy to ascribe if one does not test the assumptions. Here is a typical assumption put to an experimental test. Also demonstrated in this article are some of the methodological difficulties involved in trying to ascertain the factors behind the development of certain behavior patterns. You may see here something akin to Langdon and Stout's work in the preceding chapter.

Today we find much emphasis placed on the mental health of school children. Those engaged in working with these youngsters are well aware of their emotional difficulties, but there is still more we need to learn as to the causative factors.

Considerable research has been done with respect to the relationship between the psychological climate of the classroom and the child's emotional health. But today we are confronted with certain contemporary problems that call for serious consideration. Among these are the unusual number of mothers employed outside the home, and also divorces—creating step-parents and guardians, and involving frequently the absence of an adult male in the home.

These latter factors have received a great deal of public attention and have often created considerable anxiety on the part of the parents involved. It has become necessary, therefore, to determine the degree and manner in which these contemporary elements affect the school child.

The findings and conclusions in the present report are derived from case studies of children in the Montebello Unified School District of Los Angeles County, California. This school district, with approximately sixteen thousand pupils, includes kindergarten through twelfth grade, and contains socio-economic areas that make it fairly representative of most communities. Reference is made to approximately four hundred active case studies serious enough to be carried over for a follow-up by the district's guidance department staff during the 1954-55 school year. Case studies centered upon physical handicaps and mental retardation are eliminated from the present report.

We also include here statistics on children of Mexican parents. Since this is a cultural problem that districts like ours are seriously concerned with and try to handle adequately, we need to learn all we can about the special problems of the group. They constitute 12 per cent of the total number of the district's case studies.

The four hundred cases we have will be divided into four categories: (1) Where the mother is employed full time away from home; (2) where the children are living with step-parents or guardian; (3) homes in which the adult male is absent; (4) homes which do not have any of the above factors present (to serve as a control group).

---

[3] from Understanding the Child (a quarterly journal published by the Nat. Assn. for Mental Health, 10 Columbus Circle, New York 19, N.Y.), Apr. 1955, 24:50-55. Reprinted by permission of author and publisher.

STATISTICAL DATA

In 18 per cent of the cases the mother was employed full time away from the home (15 per cent in the Mexican group); 16 per cent of the pupils live with step-parents or guardians —25 per cent of these having mothers employed full time. Homes in which the adult male was missing were represented by 12 per cent of the cases; 50 per cent of these had mothers employed full time (7 per cent of the Mexican group). The control group was limited to 18 per cent of the remainder of the four hundred case studies (selected at random) in order to make a comparative picture. It should prove significant that altogether we find approximately 25 per cent of the total case studies represented by employed mothers.

Group I (employed mother)

	Per cent
Academic failure	28
Aggressive behavior	28
Withdrawing behavior	33
Nervous tendencies	8
Stealing, sex, etc.	3

Group II (step-parents and guardians)

Academic failure	40
Aggressive behavior	30
Withdrawing behavior	10
Nervous tendencies	15
Stealing, sex, etc.	5

Group III (lack of adult male)

Academic failure	50
Aggressive behavior	20
Withdrawing behavior	15
Nervous tendencies	10
Stealing, sex, etc.	5

Group IV (control group)

Academic failure	40
Aggressive behavior	30
Withdrawing behavior	20
Nervous tendencies	8
Stealing, sex, etc.	2

REASON FOR REFERRAL

We shall look first at the major reason given by the teacher in referring the child for guidance services.

From these data "academic failure" and "aggressive behavior" appear as the two major problems. The percentages differ significantly, however, among the four groups.

It will be noticed that, apart from Group III, problems involving aggressive behavior represent approximately one-third of the referrals. Academic failure is greatest among pupils lacking an adult male in the home. Another factor found in this study will shortly be presented, which seems to help us understand better the reason for this situation. The child with a working mother displays the greatest percentage of "withdrawing behavior." Before attempting to draw conclusions as to the specific reasons for these findings, however, we need to study other possible factors.

AGE AND SEX OF THE CHILD

There is need to know what ages and sex are more susceptible to certain parental factors. The following statistics provide a picture of this phase of the problem. The ages are grouped by grade level, so several analyses can be made with a single presentation. The girls constituted approximately 25 per cent of the case studies.

These data indicate that the youngest children in Group I are most affected by the employment of their mothers and that the older children are able to make a better adjustment to the situation. This should be a most significant fact for parents to keep in mind if the mother's employment is not a matter of dire necessity. It was found, however, that the older girls resented the domestic responsibilities placed upon them when the mother was working away from the home.

The reverse appears to be the case in Group II—children living with step-parents and guardians. Here the younger children are able to make the better adjustment, while the older child finds the new relationship difficult to accept. Likewise the step-parent finds it difficult to understand the child—thus further aggravating the problem. There were only a couple of cases at the ages of fifteen and sixteen. Further investigation disclosed that many of the older youngsters had not only begun to leave school but to leave their homes as well. The older girls, however, have

Group I (employed mother)

Grade	Age
Kdg.—Primary	5–8
50% (10% girls)	
Elementary	9–12
30% (5% girls)	
Jr.—Sr. High	13–16
20% (10% girls)	

Group II (step-parents and guardians)

Grade	Age
Kdg.—Primary	5–8
25% (5% girls)	
Elementary	9–12
50% (10% girls)	
Jr.—Sr. High	13–16
25% (15% girls)	

Group III (lack of adult male)

Grade	Age
Kdg.—Primary	5–8
30% (5% girls)	
Elementary	9–12
50% (5% girls)	
Jr.—Sr. High	13–16
20% (10% girls)	

Group IV (control group)

Grade	Age
Kdg.—Primary	5–8
45% (10% girls)	
Elementary	9–12
40% (5% girls)	
Jr.—Sr. High	13–16
15% (5% girls)	

the biggest problem here, since they are not able to be emancipated as readily as the boys from the home environment.

In Group III the elementary-age child, again, seems more affected by the lack of an adult male. It should be noted that the girls are of the smallest percentage in this particular group, in comparison with the other two parental groups. This leads to the conclusion that the female child is less affected than the male child by the missing adult male's presence in the home. However, the older girls represent the biggest percentage of girls in Group III. The reasons were found to be two-fold: (1) heavy burden of domestic responsibility; (2) lack of supervision.

The control group shows that the concentration of school children's problems is at the younger ages. We note an interesting fact, namely, that there are as many girls with school problems among the four years 5 to 8 as there are in the eight years 9 to 16.

ORDER OF BIRTH

Much is being said about the relationship between the child's order of birth and personality. Our study provided certain information on this point. We found, for example, that the youngest child in the family of the employed mother is more affected than any other. It is this child, apparently, who becomes the one most in need of attention if the mother seeks employment. Where there are step-parents or guardians, it appears to be the oldest-born child who is affected by remarriage and placement with guardians. It does not appear to be as serious a problem past the age of twelve. Where there is lack of an adult male the only-born child appears definitely affected. We also know that the age span 9 to 12 is a most sensitive time for a child in this parental group.

One of the most striking points that came out of this part of the study is the finding that the oldest child in the family is most affected among the control group. We found that the age group 5 to 8 represented 45 per cent of the control group referred for guidance services. This would imply that nearly half of the children in need of psychological assistance (other than those in the three types of parental groups involved in this study), although they are the oldest-born children in their families, are no more than eight years of age. We found some of the causative factors for this to be: (1) Birth having occurred at the time the parents were beginning to adjust to post-war conditions; (2) children competing within the same family, especially when the oldest-born child is young and still very dependent upon parental guidance; and (3) older-age children (and oldest in order of birth) finding enough opportunities, outside of the home, to gain emotional security.

PERSONALITY COMPONENTS

Next we shall look at the personality profiles of the four groups to discover, still further, in what ways particular school problems are related to parental factors. The scores given herewith represent the percentage of the group falling below 50 percentile on the California Test of Personality. Since space does not permit a complete presentation of the scores, only those significantly higher or lower, in comparison with the other groups, will be shown.

Taking Group I first, we found these children to be lacking, to a greater extent than any other group, in feeling independent of others. They also feel a lack of cordial relationship with people in general. They substitute the joys of a phantasy world for actual success in real life. We previously learned that they represented the greatest percentage, in reasons for referral, under "withdrawing behavior." They lack a sense of security and self-respect in connection with their families. This feeling is carried over to school relations in terms of how well they feel liked by the teacher, how they enjoyed other pupils, and how well school work is adapted to their level of interest and maturity.

Group I (employed mother)

	Per cent
Self reliance	50
Feeling of belonging	62
Freedom from withdrawing tendencies	68
Family relations	56
School relations	60

Group II (step-parents and guardians)

Sense of personal freedom	54
Feeling of belonging	61
Nervous symptoms	70
Social skills	58
Community relations	58

Group III (lack of adult male)

Self reliance	39
Sense of personal worth	67
Sense of personal freedom	29
Family relations	35
Social standards	49

Group IV (control group)

Sense of personal worth	61
Feeling of belonging	64
Social skills	60
Anti-social tendencies	61
Family relations	54
School relations	59

Group II is made up of problems involving a sense of personal freedom, in that the child lacks a reasonable share in the determination of his conduct and in setting policies that will govern his life. This group equally suffers from a lack of cordial relationship with people, as was found to be the case with Group I. Although nervous symptoms were evidenced in every group, children living with step-parents and guardians seem to be under the greatest emotional strain. Another characteristic of children in this group is a lack of social skills. This helps us to understand why they are more often referred for aggressive behavior than children in the other two parental groups under study. The problem of community relations is explained by the fact that acquiring step-parents, and particularly guardians, often means moving away from friends and surroundings offering security and pleasure—a factor frequently overlooked.

Children in Group III, missing the companionship of an adult male, indicated that their greatest problem was in "sense of personal worth." The child lacks belief that he is well regarded by others and that they have faith in his future success. We recall that this group was most often referred for academic failure. Their case studies revealed that they were not lacking in capacity to any greater extent than the other groups, but did lack the motivation and standards often given and set by an adequate adult male in their growing stages. However, they were comparatively strong in self-reliance and family relations (in contrast with the group with employed mothers). These children have to learn to depend more upon themselves because of their particular parental situation, and usually have stronger loyalty and appreciation for the single parent trying to be both a father and a mother to them. A problem hardly existed, for this group, in "sense of personal freedom" (in contrast to the step-parent and guardian group). There was little family opposition to allowing these children to be emancipated at an early age from their home environment. But in social standards a problem did exist. Although the percentage found was not large enough to be alarming, it did indicate an area of serious weakness. Children lacking the adult male are also lacking in much of the guidance needed to understand what is regarded as socially right or wrong in one's society.

We discover that members of the control group form a composite of personality difficulties found in the other three groups. They are similar in the feeling of personal worth found in Group III; the feeling of belonging, of both groups I and II; the social standards of Group II; and the family and school relations of Group I. However, they lead the other groups in anti-social tendencies. This helps us to understand why the child in this group is so often referred for aggressive behavior. The anti-social child attempts to get his satisfactions in ways that may hurt or be unfair to others.

CONCLUSIONS

A number of conclusions have already been cited, but there are several more that are important, and we need also to review some very significant ones.

1. We have found that the three parental groups involved in this study constituted approximately one-half of the children referred for school guidance services (excluding problems based upon mental and physical handicaps).
2. A working mother contributed to only one-fourth of the total number of cases in need of psychological help. Apparently there are many children whose mothers work who do not present problems in school. This would indicate that as long as the child is made to feel secure and happy the mother's full-time employment away from home does not become a serious problem. But if employment is sought, we must be most sensitive to the needs of the younger children.
3. The statistics disclose that the problem of the working mother is not as great among Mexican children as with the non-Mexican group; but their difficulty lies in the area of a broken home. Also, far fewer Mexican mothers attempt to raise their children alone.
4. We found that girls make up only one-fourth of the total number of cases referred for guidance services. Encouragingly, the overall difference between the total percentage found in the control group and those of the three parental groups is very little. It is at the later years that the girl is more affected by irregular change in her home environment.
5. The age and sex findings for the group lacking an adult male correlate well with data on growth development. The younger child, still more dependent on his mother, is not as handicapped as the elementary-age child, who needs his father's relationship to guide him in developing the necessary male characteristics.
6. It is important enough to repeat that children need a great deal of help in adjusting to step-parents and guardians. Their ability or inability to get along with other children is indicative of how well the adults in their home environment get along with them.
7. There is a definite relationship between the only-born child and our three parental groups. In comparison with the small number in the control group, we may conclude that the irregular home environment is a strong contributing factor to the only-born child's school problems.
8. Lastly, there may always be circumstances that parents cannot prevent to cause a child to be placed in one of these three parental groups. Nevertheless, these problems are of a controlling nature. A sincerely concerned parent or teacher, made aware of what might happen to a child under these particular circumstances, is in a position to prevent, or at least minimize, the child's difficulties.

The Impact of Beginning First Grade

Celia Burns Stendler and Norman Young[4]

From the school's point of view, the door to the first grade is the open sesame to opportunity. We frequently place the most effective teachers in this critical spot. However, this is only the shell of the story. The core question is how this point of great transition affects the family and the child. Should all children begin school at six? Are there better ways to introduce them to schooling, thereby ensuring healthy attitudes in later grades? This article tells how a group of six-year-olds reacted to the experience of starting school. The findings bring into question a currently accepted picture of "six-year-oldness" and suggest that the traits a child develops may be more closely related to his ego-development in a world of demands and problems than to simple maturation or automatic unfolding of inner potential.

Each year over two million six-year-olds enter first grade in our public schools. This is a unique experience for them; for many it may represent the initial protracted experience with a socializing agent outside the home; for many it may be their first large group contact; for most, even for those who have had preschool, it undoubtedly brings pressures and demands hitherto not felt. It was our thesis in conducting this study that the experience of beginning first grade plays an important part in the socialization of the child; it was our purpose to tentatively explore certain aspects of this experience through interviews with mothers.

We began with descriptions of "sixness" found in the literature. Gesell and Ilg have reported that this is "a trying age" for many a parent. The child is described as difficult, aggressive, explosive, demanding; his behavior is fresh, nasty, insulting, impudent, bratty, rude and argumentative. This is in sharp contrast to his behavior at five when he was "in focus," cooperative, friendly, . . . affectionate, helpful. . . .

But while these writers are willing at this point to accept the picture of sixness as Gesell and Ilg present it, they do question the assumption of the Yale school that the kind of behavior observed at this age level is developmental as they have defined the term. Gesell and Ilg state that the changing patterns of behavior seen in the young child "are not the product of the contemporary environment; they are primarily the expressions of the ancient processes of evolution. . . . In some condensed way the child must retroverse these immense ages. . . . In the vast complexities of his nervous system he matches the vastness of his ancestral past."[5] The writers question this theory which implies a universality and inevitability of developmental stages, a theory which is not substantiated by evidence from other cultures. It is the writers' thesis that six may indeed be a difficult stage but that this is due to the fact that the socialization process is being changed in important ways by the experience of beginning first grade. Some of these possible changes are described below.

---

[4] from "The Impact of Beginning First Grade upon Socialization as Reported by Mothers," Child Development, Dec. 1950, 21:241-260. Reprinted by permission of authors and publisher.

[5] Arnold Gesell and Frances L. Ilg, The Child from Five to Ten (New York: Harper, 1946).

1. It was postulated that entrance to first grade is highly significant in the minds of sixes and may bring about certain changes in the child's conception of himself. . . . While there are many aspects of ego-development which might be considered, the aspect which seems appropriate for this study involves the development of the concept of self. This concept of what is self and what is not-self gradually emerges as the child learns to differentiate himself from his mother. However, because he has been living in an environment which centers around him, his early perceptions of self take the form of "infantile omnipotence" and he sees other individuals only as servants to self. But when he begins walking and talking and becomes part of total society, his actions are curbed. There are more and more prohibitions upon his behavior, so that he may lose some of his feelings of omnipotence and come to a more realistic concept of self.

The experience of beginning first grade, however, may serve as a shot in the arm to bolster the deflated ego. This experience is one that is dramatized considerably in our culture. By the way in which adults discuss school entrance with the child ("So you're going to FIRST GRADE in the Fall"), from remarks of adults and their children concerning future school activities, even from his new haircut and new clothes for the event, the young child gets a feeling of participating in a great and important adventure in which older children whom he recognizes as having age-status, are already participating. Furthermore, it is an adventure in which all sixes share; our culture says at six one leaves home and goes to formal school. To the young child entrance to first grade may seem a major step in the process of growing up, as important as certain initiation ceremonies at puberty in primitive tribes. It is a step away from babyhood and home into the world of peers and older children. It may bring with it feelings of increased self-importance, self-esteem and of ego-identity. . . .

But there are other ways, conflicting ones, in which the child's concept of self may be changed. In first grade the child also sees himself in comparison with other children. He comes to a new and realistic conception of self as he learns that others surpass him in certain skills or that he surpasses them. The feelings of self-importance, of independence which accompany entrance to school, may give way to self-reality and self-deflation as time goes on. As the child tries to assimilate these conflicting self-ideas into the ego, he may show signs of the conflict in the erratic and "unsocialized" behavior described by Gesell and Ilg. . . .

2. It was further postulated that the changes in behavior described by Gesell and Ilg as occurring at six might be due to the fact that a new socializing agent in the form of the teacher has been introduced. For most first-graders, this is their first experience with a socializing agent outside the home. Even for those who have attended preschool, the concept may be one that is only imperfectly learned at six years of age. Some evidence for the statement that the child recognizes the teacher as a socializing agent may be found in the play life of the young child as he dramatizes the role of the teacher. It is common knowledge that the young child loves to play school. In his play, he typically portrays the teacher as a stern, strict disciplinarian, even though she may be nothing of the sort. By the very intensity with which he plays this exaggerated role, he may be revealing that he sees the teacher as a socializing agent.

And where the child has established satisfactory relations with his mother, the mother-surrogate may present no difficulties, *provided* he sees her as the same kind of socializer as his mother. But where there have been maternal conflicts in preschool years, or where the teacher makes demands that are too different for the child, we may expect behavior difficulties. This, however, is getting ahead of our story. What we were interested in finding out in this study was whether mothers reported changes for the worse, as described by Gesell and Ilg, occurring with first-grade entrance and the introduction of a new socializing agent. With this knowledge in our possession we could then set up hypotheses to explain differences in adjustment to school, to be tested by more rigorous experimental procedures.

Another aspect of the school experience which may influence the socialization process is that the child now has extended group contacts, and that the peer group may introduce important new learnings. The child learns many things from his peers and many of these learnings come the hard way. He learns from them to take frustration. He learns not to cry on the playground and not to be outstandingly different. But some children may also learn as early as Grade I that one can more easily risk losing an adult's acceptance if one has the support of his peer group. The authority of adults may become weakened as the child grows to appreciate that one can't win with adults by oneself, but one can put up a pretty good battle with one's peers behind one. The process may be analogous to that described by Arnold Green in his report on Polish lower-class family life as seen in a New England community. Green comments on the fact that in large families it is possible for a boy or girl to oppose his parents because he knows he will have the support of one or more of his siblings; his personal security is not threatened by his bid for moral autonomy as is the security of the only child who stands alone in his defiance of parental authority. In other words, in the process of growing up, it is necessary to say "no" to one's parents; it is necessary to disobey them. It is easier to risk the possible loss of affection when one has the support of siblings. The same thing may be true in school. The child may have the courage to oppose the authority of the teacher because he knows his peers are behind him, and this knowledge may give tremendous impetus to his growth in independence. . . .

PROCEDURES

Two interviews were conducted with mothers of first-grade children, one interview just prior to the child's entrance to first grade, the second after he had been in school for approximately two months and had received his first report card. The interviews were carried out in a Midwestern community by ten different interviewers. A sample of public schools was taken, then a sample of 250 parents whose children were to enter first grade in the fall. Two interviews were completed with 212 of this group. Median age of the group was 6.3 years as of September 1, just prior to entering school. . . .

RESULTS

In reading the following section, it should be kept in mind that the information presented here is what mothers have chosen to tell.

1. Entrance to first grade is highly significant in the minds of sixes and may bring about certain changes in the child's concept of self. This is because of cultural expectations, dramatization of the event, and because the child sees it as his initiation into the outside world.

In our first interview we asked certain questions with regard to expectation of and preparation for first grade. From mothers' reports of the child's expectations it would seem that he does regard first-grade entrance as a landmark in the growing-up process. In the first interview 197 mothers reported that the child was looking forward to school, as compared with 15 mothers where the child was not. Furthermore, parents' answers indicated a high degree of eagerness to enter school as well as the important place in the child's mind school entrance held. "He's raring to go," "He can hardly wait," "It's all he talks about," were typical responses to the question. Where children were negative, mothers told us they had had unfortunate preschool experiences, or were closely tied to home and mother. . . .

The six-year-old goes to school to learn to read, to write, and to figure, according to our parents. One hundred seventeen responses indicated that as the parents saw it, their child was expecting to work and to learn certain specific skills. The six-year-old expects to have books of his own in his own desk, and to work rather than play in school. . . .

Mothers reported a variety of answers to the questions, "What have his parents told him about school?" and "What has he been taught?" While many parents do not tell the child much about the school program (partly because they realize schools have changed and partly because the schools have asked them not to), they do try to prepare the child in other ways. In general, the six-year-old knows the alphabet, some nursery rhymes, can write his name, count, sing, and in some cases, can read. . . .

More important from the standpoint of our problem, the school has been presented as a socializing agency. The child has been told that he must behave himself in school, must mind the teacher, must be quiet, must not interrupt, that the teacher takes the place of his mother and is the boss. In some cases, the teacher has been held over his head as a kind of veiled threat, "You'll have to change your ways when you start first grade." "You won't be able to get away with that stuff in the first grade." "Wait till the teacher sees you acting like that. You won't do it long." Most parents, however, try to present the teacher as a kind and benign socializing agent, "Be nice in school and everyone will be nice to you." "Like the teacher and she'll like you" is the gist of what some children are told. . . .

Additional information on how dramatic an event first-grade entrance is to the young child came from parents' answers to the questions in the second interview. "Does your child feel that going to Grade I is more important than preschool? How does he show this?" Almost all of our parents answered in the affirmative. Their answers included such comments as, "He acts inflated now. Comes home and says 'Boy, we sure had some hard work today!' " "Considers kindergarten children quite babyish. He acts big at home and is proud of his reading. He never showed pride before." "She thinks going to first grade and learning her letters is the best thing that has ever happened to her." "Feels she isn't playing any more. Feels important because she brings home so many papers." Out of 202 mothers answering this question, 81 per cent answered positively that the child gave indications of feeling more important, 11 per cent indicated no preschool experience and 8 per cent felt that there had been no change in the child's feeling about himself.

Reports on the child's going off to school the first day corroborated the other evidence that this is a big event and a happy one. Sixty-one per cent of our mothers reported the child went off happily. It is apparent that he is apprehensive; he is reported as not sleeping well the night before, or waking up at 5 A.M. and asking, "Is it time yet?" However, on the whole the reaction as reported by mothers was favorable. They also report that new clothes, the opportunity to walk with pals, or taking the child helped on this first day. Nineteen parents reported difficulty in getting the child off to school. Parents attribute this to unfavorable expectations of school built up in the child's mind by other children, or to immaturity.

What mothers tell us about their child's expectation of, and reaction to, first-grade entrance, then, would seem to substantiate our thesis that this is a very important event for six-year-olds, and one that seems to bring with it observable changes in the self-concept.

2. Difficulties in adjustment at six may be due to the fact that the socialization process is disturbed by the effects of first-grade entrance with its accompanying pressures for new adjustments.

The reader will remember that in the introduction to this paper this particular hypothesis was proposed to explain the kind of behavior Gesell and Ilg reported as typical of the six-year-old.

To see whether the kinds of behavior reported above came with entrance to first grade, four questions . . . concerning changes in behavior were asked of the parents in the second interview, which took place ten or twelve weeks after school had begun. A fifth question had to do with possible changes in attitude toward the mother following school entrance. . . .

a. Does the child act any differently now than before he started to school?

Of the 198 mothers answering this question, 86 per cent reported change in behavior and 14 per cent no change in the child. On the positive side they reported such changes as acting older, taking more responsibility, helping more at home, being less irritable, more self-controlled, having better work habits and the like. On the negative side, such behavior as acting smart-alecky, whining, increased aggressiveness with siblings, more irritability was reported. Of the 170 parents who reported change, 78 per cent mentioned ways in which the child was changing for the better; 22 per cent mentioned change for the worse.

b. Is he more independent? In what ways?

Here again our first-grader tended to get a clean bill of health from the mothers who were interviewed. Almost three-fourths responded positively to the question regarding increased independence. They reported more independence in dressing self, beginning work, entertaining friends, going on errands, shopping for groceries, staying alone at home, bathing, and helping around the house. While it is recognized that growth in independence might represent an unwelcome challenge to some mothers, the items reported by our mothers indicate growth in independence which they regarded as positive.

c. Does he resent being told what to do? Does he want to do things his own way? More so than before school?

d. Does he blow up more easily now than before he started to school?

Unfortunately, because we assumed the Gesell-Ilg description of sixness would fit our sample, these two questions were worded in such a way that parents reported either that there was no change in the child's tendency to be resentful or to blow up, or that he had changed for the worse. Had we also asked a question regarding change in a positive direction, our results might have indicated more positive change. As it was . . . 60 per cent of our parents reported no change, 12 per cent that the child was less resentful, and 27 per cent more resentful. In answer to the question about blowing up more easily, 57 per cent of our mothers indicated no change, 20 per cent that the child was improved in this respect, and 23 per cent that he was worse. In other words with regard to the difficult, explosive kind of behavior that we had expected to find, most of our mothers reported either no change or change for the better. . . .

e. Does he ever imply that teacher knows more than mother? Hold teacher up as higher authority? Act as if parent doesn't know much? Is condescending in relating school events? Becomes impatient if Mother doesn't understand? More so than in preschool years?

. . . Fifty-eight per cent of our mothers reported no change in the child's behavior, and 42 per cent indicated change. . . . For some children it would seem that dependency relations with the mother are so strong that the school does not change them; that for others there is a marked difference, and that the attitude of the mother toward change in the child is a factor to be considered. . . .

In addition to information concerning mothers' observations of changes in child behavior since first-grade entrance, we also asked questions about the child's liking or dislike for school, since conceivably there might be a relationship between this factor and child behavior. We asked the direct question, "Is the child liking school? His teacher?" but also asked, "Does he ever say anything critical about school? About his teacher?" and, "Has he ever said he didn't want to go back to school? Hesitated to leave in the morning?"

To the first question regarding liking for school and teacher, 92 per cent of the mothers answered in the affirmative, with only 8 per cent being neutral or negative. Many of the answers indicated a high degree of enthusiasm. "Crazy about it—wants to go Saturdays and Sundays." "Cries when he can't go because of a cold." "Loves his teacher—thinks she's a wonderful person" were some of the replies. However, although over-all liking for school was high, 42 per cent of the mothers mentioned criticisms of the school made by the child, and 39 per cent reported there had been days when the child did not want to return to school. Criticisms of the school by the child included criticism of the actions of other children (too noisy, too rough, too naughty), of school rules and regulations (lining up to go to the bathroom, keeping quiet, punishing whole class for one child's naughtiness), of school program (too much work, too much coloring, too little play), of the substitute teacher. To a related question concerning difficulties with other children, 137 mothers reported trouble. Two kinds of difficulties were frequently mentioned, the first of which involved aggressiveness on the part of other children ("Older boys pick on him," "Older girls pick on her," "One child shoves him around"). There were 79 of these complaints where other children were the aggressors. Some mothers reported their own children as being at fault. . . .

SUMMARY AND DISCUSSION

. . . Our results have led us to abandon the notion that sixes are "out-of-focus." Indeed, the theory that children are inevitably in-or-out-of-focus at a particular age would not jibe with our results. Rather it would seem that if sixes or any other age group show improvement or deterioration we had better look, not to innate causes, but to experiences which they are having in common. Differences between our findings with respect to six-year-old behavior, and those of Gesell and Ilg are no doubt attributable to the difference in the sample.

On the whole, the experience of entering first grade would seem to have favorable effects upon behavior. It would also seem that the experience *of beginning school is a highly important one* for the six-year-old, and an ego-bolstering one. Whether this is a temporary state of affairs and whether disillusionment will set in later on during the first year in school remains to be seen. We also need to investigate further the hypothesis that ego-enhancement at six and improved behavior are connected. While our data indicate that these two phenomena exist in the parents' mind, it may be that parents think behavior has improved, whereas actually, because the children are away for a larger part of the day, there are fewer opportunities for behavior *difficulties to occur. . . .*

INTERPRETING THE SELECTIONS

Neill article

1. Upon what theories of human nature, of the nature of children, and of the nature of the learning process do the foundations of Summerhill rest? Which of these theories do you feel are valid? Explain.

2. Here we have an unexplored variable, the dynamic impact of a very knowing, purposeful, strong, and intelligent leader. What makes it work—the theory or the man, or both, or perhaps some other combination of factors?

3. Would you be comfortable as a staff member at Summerhill? What things would be difficult for you?

4. Are our schools training children for a society that is "carried on the shabby shoulders of . . . the scared-to-death conformist"? Explain.

5. If the children at Summerhill have absolute freedom, should they not also select and dismiss staff and plan menus? Upon what criteria does Neill draw the line between adult and child responsibility? Do children need to know and feel who are adults (staff) and who are children? Do they need a sense of mature guidance?

Skinner article

1. Walden Two is admittedly a mythical community. What is the author's purpose in writing such a story? What message is he trying to give?

2. Again, what theories of human nature and of the nature of learning itself underlie the Walden Two experiment? How do these theories differ from Neill's?

3. What is the future for the science of behavioral engineering? What safeguards in experimenting with children must be

4. Do you agree with Castle's list of standard motives for learning? What is the motivation for learning in Walden Two?

5. How would the "graduates" of Walden Two differ from those of Summerhill in personality, productivity, and as members of our society? What factors make the difference?

6. How might Frazier answer the question, "What is freedom, anyway, under such a plan?" Do you think it is accurate to say that this system is a totalitarian design?

Rouman article

1. According to the article, half the children in homes without an adult male also had the condition of a mother employed full time. Does the author take cognizance of this fact in reporting his findings? What changes might it make in his conclusions?

2. Compare Groups I and IV in the second table. Do the figures in Group IV cast any doubt on the conclusions the author draws from the figures in Group I?

3. The author takes the figures in the second chart to indicate *causal* relationships between the different parental conditions and the children's adjustment at each age. Do you think this assumption is warranted by the data? What conclusions do you think can legitimately be drawn from these figures?

4. Which generalizations cited in the last part of the article are supported by the data obtained in this study?

5. If you were repeating this study, are there any changes you would make in procedure?

Stendler and Young article

1. Are you justified in generalizing from this experiment that children do not become more aggressive and disorganized following school entrance? Why or why not? What generalizations *can* you draw from the findings?

2. How would you explain the discrepancy between Gesell's characterization of "six-year-oldness" as a time of disorganization, aggressiveness, rudeness, and explosiveness and the finding of this study that most of the parents reported improved behavior and greater responsibility and cooperativeness after school entrance?

3. Gesell's conclusions are the result of observations of individuals and small groups by trained observers. Stendler and Young's findings came from interviews in which the parents were asked what they had observed about their children's behavior and attitudes. Would you expect the findings to be comparable? What special advantages and limitations do you see in each method?

4. State the best case you can for the developmental thesis of Gesell and Ilg. State the best case you can for the opposite point of view.

5. On the basis of this article what special opportunities and responsibilities do you see for the first-grade teacher?

6. If you were a first-grade teacher, what fears would you anticipate on the part of your pupils, and what would you do about them?

7. What happens to the eagerness of first-graders as they progress through later grades? Can anything be done to preserve it?

6 THE TEEN-AGER

Developmental Levels of Character: A Theory

Robert F. Peck and Robert J. Havighurst[1]

Early studies of children's honesty showed such inconsistencies in different situations, it was long assumed that all moral behavior is specific to each situation. General, consistent character traits like honesty or loyalty were assumed not to exist. In the face of this overgeneralization from some studies, the authors of the following reading became convinced of the need for a theory that would recognize both the inconsistencies and the stable general tendencies that are clearly characteristic of moral behavior. Their theory, as summarized below, is one outgrowth of an extensive study of a midwestern community extending over many years.

It is based on exhaustive psychological and sociological data that were obtained from the study of 36 children during their development from birth through their late teens. It marks an attempt to delineate several types of consistent moral orientation that are found among the adults of our culture and that can also be ranked in a developmental sequence as stages through which a person passes in his progress toward maturity.

In an attempt to answer the . . . question, "What is character?", a set of five character types was defined, each conceived as the representative of a successive stage in the psychosocial development of the individual:

Character Type	Developmental Period
Amoral	Infancy
Expedient	Early Childhood
Conforming	Later Childhood
Irrational-Conscientious	
Rational-Altruistic	Adolescence and Adulthood

This set of character types was intended to: (1) be defined and labeled in terms of the control system the individual uses to adapt his search for satisfaction to the requirements of the social world; (2) include all the possible modes of adaptation; (3) be defined in terms of motivation (so long as it achieves behavioral expression); (4) represent both operational patterns of behavior, and the stage in psychosocial development to which each pattern presumably is most appropriate.

---

[1] from The Psychology of Character Development by Robert F. Peck and Robert J. Havighurst (New York: John Wiley & Sons, Inc., 1960), pp. 3-11, 66-77. Reprinted by permission of the publisher.

Since few people are so completely all of a piece that they have only one kind of motivation at all times, it is more accurate to think of the five motivation patterns, or "character types," as *components* of character. Indeed, that is the way they were treated throughout most of the research. However, for purposes of exposition, it is convenient to define them in terms of five pure "ideal types." This serves an additional purpose in thinking about the motivation patterns as an ascending developmental sequence, from childlike reasons to mature reasons for behaving morally. Consequently, while these five "main motives" are henceforth treated as *components* of moral character, the term "character type" is used in defining and discussing them.

The first "pure" character type represents the absence of any self-imposed control, or any concern for adaptation to the moral requirements of social living. The last four represent the four kinds of reasons why a person may behave according to the moral standards of his society. . . . Names were selected for the types which would, as far as possible, indicate the chief dynamics operating in each. This becomes a little unwieldy at points, but it may have the virtue of conveying the central concept in quick, brief fashion.

The definition of each type was phrased in terms of a hypothetical individual whose character structure would be a "pure" example of the type. Actually, one would expect to find only rarely a person who operated so exclusively in one way as to constitute a pure type. In practice, what was assessed was the relative proportion of each person's dynamic structure which belonged in each of the five type categories. It was found that one component often tended to predominate and make the person a reasonably clear-cut example of one particular character type. In every case, however, there always were some times when the person acted according to other type patterns.

AMORAL

This type corresponds to what is often called clinically the "psychopathic personality." Such a person follows his whims and impulses, without regard for how this affects other people. He considers himself the center of the universe, and sees other people or objects as means to direct self-gratification. If his basic emotional attitudes are mainly hostile, he is apt to be found committing delinquent or criminal acts. If he has a positive, pleasant view of others, he is more apt to be known as "charming but irresponsible." He may form temporary alliances with people, but will abandon them the minute he sees a richer source of gratification.

He has no internalized moral principles, no conscience or superego. He feels no need to control his personal impulses, and exhibits no control. His impulses may or may not be actively *immoral*, antisocial, or destructive in intent; but in any case he disregards the moral connotations and consequences of his behavior.

In a real way, this is a picture of an infant, in its first year. Adults who show such a pattern are spoken of clinically as fixated at an infantile level. To the best of our knowledge, they act so because they have never learned to accept prohibitions or sanctions from others. The percentage of near-complete psychopaths in our society is probably small. More often, a tendency of this sort may be present to some degree, partially repressed or suppressed, within a person who is otherwise responsive to social demands.

EXPEDIENT

A person of this type is primarily self-centered, and considers other people's welfare and reactions only in order to gain his personal ends. He tends to get what he wants with a minimum of giving in return. He behaves in ways his society defines as moral, only so long as it suits his purpose. For instance, he may act in "honest" ways to keep an advantageous reputation. If he can gain more by being dishonest, particularly if he can avoid detection and censure, he does so. He is not particularly concerned about other people's welfare, except as he may observe it in order to obtain their approval. Like the Amoralist, he regards himself as the only person who is really important; but he is more aware of the advantage of conforming to social requirements in the short run, in order to achieve long-run advantages. Hence, his outward behavior may often be honest or responsible, in the main, as far as others can see. The key to his low-level morality is his "me-first" attitude in a critical situation, where an unmoral act may bring advantages that outweigh any disapproval.

A clue to his basic motivation, despite any outward conformity to social patterns, is that in the long run he may be inconsistent in living up to moral principles. He may or may not have a well-organized, rational system of personal values, firm self-control, and realistic perception of how to get what he wants; but he has no internalized moral principles, no conscience or superego.

Such a motivation-behavior pattern is characteristic of many very young children, who have learned to respect the reward-punishment power of adults, and to behave correctly whenever an adult is around. External sanctions are always necessary, however, to guide and control their behavior, and keep it moral. In the absence of such controls, they immediately relapse into doing what they please, even if this involves shoving other children around, taking what they want, or otherwise gratifying their self-centered desires.

CONFORMING

This kind of person has one general, internalized principle: to do what others do, and what they say one "should" do. He wants to and does conform to all the rules of his group. He wants to do what others do, and his only anxiety is for possible disapproval.

The Conformist is seen most often, perhaps, in stable folk societies. He learns, more by habit than by awareness of moral cause and effect, to behave in each specific situation in a certain prescribed way. He is kind and loyal to his family and tribe, because he is rewarded for acting in such a way on this occasion, punished for transgressing the rule on that occasion. He may learn that he should be polite and considerate of male relatives on his mother's side, but is freely permitted to insult and take advantage of men from his father's family. He has no generalized principles about being "honest" toward everyone. He follows a system of literal rules, specific for each occasion, with no necessary overall consistency as to the degree of morality in different situations.

A convenient way to distinguish this type may be to ask whether the person feels bad when he breaks a rule, out of *shame* or *guilt*. We define shame as fear of disapproval by others. Thus, a person who acts morally because he would be ashamed if others found him violating the moral rules is controlling himself according to external sanctions: a violation is not wrong in itself, nor because of its effects, but because other people say it is wrong and their approval is at stake. This is a childlike attitude, uppermost in Piaget's heteronomous period, no doubt. It differs from the Expedient approach in that social conformity is accepted as good for its own sake. A Conformist may frequently ignore chances for personal advantage, if they require departure from the prescribed rules of conduct.

In a sense, such a person might be said to have a crude conscience, since he may feel very uncomfortable about departing from the rules. However, he does not follow them for a moral purpose, that is, because he is concerned about the effect of his behavior on other people. He defines "right" as acting by the rules. If this sometimes hurts others, he feels no moral responsibility, no guilt. Further, he has no abstract principles of honesty, responsibility, loyalty, etc. The rules he lives by may call for kindness to some people, cruelty to others. This does not concern him.

This kind of pattern is visible in middle and late childhood. It may be an alternative solution to the problem of living in society, parallel with the Irrational-Conscientious kind of orientation. Both types ultimately spring from and depend on external rules and sanctions to make their behavior consonant with a code of morality.

IRRATIONAL-CONSCIENTIOUS

This is the person who judges a given act according to his own internal standard of right and wrong. In the adolescent or adult of this type, conformity to the group code is not the issue. Rather, it is conformity to a code he has internalized and believes in. If he approves of an act he sees as honest, he carries it out whether or not the people around him approve. He appeals to an abstract principle of honesty, applying it as he interprets it to any situation where it seems relevant. If he fails to live up to his own idea of what is moral, we call his anxiety "guilt." It is a feeling of having violated one's own integrity.

The irrational component is visible in the individual's customary rigidity in applying a preconceived principle, somewhat in the manner of the Conformist. An act is "good" or "bad" to him because he defines it as such, not necessarily because it has positive or negative effects on others. This is the "blind," rigid superego at work. It is characteristic of children who have accepted and internalized the parental rules, but who have not attained awareness that the rules are man-made and intended to serve a human, functional purpose. Consequently, they may be so rigidly "moral" that they sometimes act to the detriment of others. This would seem to be an alternative form of childlike morality, occurring at the same developmental level as the Conforming type, and thus parallel with it as far as concerns any measure of the maturity of character development.

On the positive side, this may be reasonably effective in insuring outwardly moral behavior at all times. We assume this strong, blind conscience to be "the heir of the parental superegos." If the parents' code fits in well with a moral code which has been produced in the society by long, empirical testing of what is good for people, then it probably contains few seriously destructive elements. This would not be true, of course, of the Irrational-Conscientious child of a criminal subgroup in a society, if such a combination could exist.

RATIONAL-ALTRUISTIC

The Rational-Altruistic type describes the highest level of moral maturity. Such a person not only has a stable set of moral principles by which he judges and directs his own action; he objectively assesses the results of an act in a given situation, and approves it on the grounds of whether or not it serves others as well as himself. (He may do this either consciously or unconsciously; the issue is not the consciousness, but the *quality* of the judgment.) In the ideal case he is dependably honest, responsible, loyal, etc., because he sees such behavior is for everyone's well-being. He is "rational" because he assesses each new action and its effects realistically, in the light of internalized moral principles derived from social experience; and he is "altruistic," because he is ultimately interested in the welfare of others, as well as himself. He is not interested in pursuing a principle for its own sake, without regard to its human effects. He has a strong, firm conscience or superego, but he tests, modifies, and applies its directiveness in order to achieve the ultimate purpose of the rules it contains.

He observes situations accurately, sees implications beyond the immediate, and can experiment mentally to decide on the most moral course of action. He recognizes objectively what other people want and how they feel. He is able to feel as they do, or know how he would feel in their position, without losing perspective by completely identifying with them.

He is as much concerned with assuring the well-being of others as with assuring his own. He is capable of self-sacrifice, but only if it genuinely helps others, not for neurotic self-satisfaction. He enjoys seeing others live a full life, and his efforts to aid them are based on what they need and want. His motives are not primarily to win personal gratification, using others as a means to this end.

He wants to work constructively in some area and produce results useful to everyone. He sees his relations with others as a pleasant, cooperative effort toward mutual goals, whether vocational, social, or recreational. As an adult, he assumes an appropriate share of responsibility in his role as member of a family, community, nation, and the human race. His moral horizon embraces all mankind, as his behavior demonstrates. He is honest with all, kind to all, and respects the integrity of every human being.

He is actively *for* his principles, neither a passive conformist nor an intolerant "reformer." He does not interfere with others' constructive activity; but he uses voice and action to prevent anyone from acting destructively.

He reacts with emotion appropriate to the occasion. This does not mean he is unemotional, for he is enthusiastic about promoting what is good, and aroused to prevent what is bad. He knows himself, and faces his own reactions honestly. He does what is morally right because he wants to, not because it is "the thing to do."

His behavior is both spontaneous and rationally oriented. He accepts responsibility for his own acts, and blame if it is deserved. He judges other people's discrete actions without making a blanket approval or condemnation of the person as a whole. He knows what is good for himself and others, and acts accordingly. He is consistent in principle, but not rigidly ritualistic. He assesses each situation in its own terms, but follows his principles in deciding what to do. He has no logic-tight compartments in his thinking.

His public and private values are just about identical. He sees himself as he is, works for deeper perception and understanding, and respects his own capacities as he does other men's. He feels no irrational anxiety or guilt. If he errs, he feels guilty; but his response is to take steps to rectify the error. If he succeeds, he no longer feels guilty. He justifies his actions by their moral effect, not by rationalization or defensive misperception. Such a person, it was proposed in this study, is moral to the highest degree. He is also mature, emotionally "well-adjusted," and using his constructive capacities to the fullest.

This picture of the Rational-Altruistic person represents an ideal goal, of course, to be sought, perhaps to be approached by adulthood, but probably never to be perfectly achieved and unfalteringly maintained by the best of mortals. None of the adolescents in the study were expected to reach this ideal. They were appraised for the proportion of their character that resembled this pattern, in ways one could reasonably expect of boys and girls their age. . . .

There are well-known dangers in any attempt to "type" people, no matter what the system. This characteristic typology was mainly designed as a rough, provisional way of classifying the adolescents for research purposes, in an effort to find out if there were any significant, correlated differences in two other sets of factors: their personality characteristics and the interactional dynamics of their families. Only if the subjects classed together according to character type proved to be similar in the other factors, would there be any evidence that this character typology might have some validity as a way of describing people's character. . . .

RALPH REED:
A RATIONAL-ALTRUISTIC BOY

[at age 10]

Moral Ideology Test Responses.

Good Things: 1. To help people, 2. Obey patrol rules, 3. Wash before meals, 4. Mow lawns, 5. Do not fight when you are mad, 6. Don't break windows, 7. Put out the flag, 8. Don't trip people, 9. Don't make noise when people are sick.

Bad Things: 1. Break windows, 2. Hurt your brother or sister, 3. Fight on the playground, 4. Gobble up your food, 5. Talk back to your parents, 6. Don't mind the teachers, 7. Kick things around, 8. Swear at people, 9. Acting smart.

Like almost all the children, Ralph's chief moral "problem" at this age was learning to control his aggressive impulses. Instead of revealing violent, infantile hostile impulses, however, most of Ralph's aggressive responses showed a built-in control which tended to suspend attack or displace it into relatively harmless outlets.

He was certainly "all boy" at this age, but compared to the other ten-year-olds, he showed more complex and more specifically differentiated thinking in his responses. Not literal-minded, they were yet concrete, likely illustrations of every-day moral issues, mixed with abstract but decidedly lifelike ideas, such as "acting smart." (In the original "blind" analysis, the quality of his responses was correctly interpreted as reflecting intelligence in the superior range.)

The same picture of active, outgoing boyishness was evident in his Emotional Response Test, when he was eleven. At the same time, he revealed more concern and sympathy for other people (and pets) than most of the children, by the simple act of mentioning as important, things that happened to those others, instead of events which affected only himself. . . .

In his eleventh year Ralph was rated very high by his age mates on all the moral traits (average D score for all traits, 24.3, with a high of 26.5 on loyalty). Teachers also rated him high, except, curiously, for a below-average score on honesty. There is no available evidence to explain this, and two years later they rated him very high on honesty, as well as on all the other traits. One can only speculate that one or two of his teachers . . . may have taken affront at his frank independence and rated him down on honesty as an expression of their distrust of such determined self-direction in a schoolboy. Certainly, there was never any evidence of dishonesty in his behavior.

[at age 11]

Sociometric Interpretation Excerpt. Ralph had extreme scores for being a leader in work and play, enthusiastic, enjoying things he does, able to sit still or move about quietly (in adult-controlled situations), and for being "someone you would choose for your best friend." He was also rated high on being willing to take chances, and on being well-groomed. On the sociogram of the total T group, he was chosen by eleven classmates as one they would like for their best friend. These were all boys, except for one prominent girl.

[at age 13]

Sociometric Interpretation Excerpt. When he was thirteen, Ralph's social position and reputation were almost exactly the same as [at eleven]: among the best-liked and most influential in the group. Now, three girls named him as a "best friend" choice; girls who were themselves highly popular. . . .

That Ralph was a boy with normal self-indulgent tendencies is apparent in an essay he wrote . . . at thirteen:

> If I were sixteen I would get in my convertible, five-passenger coupe. I would go to a dance and get introduced to a girl and make a date for the next Saturday night. I would stop in on Bill Miller and we would go for a ride all afternoon and then we would pick up his girlfriend and I would go pick up the girl that I had dated. Then we would go take in a show. After the show we would go get something to eat. If it was a nice day we could go for a ride after we ate, or else if we wanted to, we could go skating.

Certainly, this seems a rather aimless fantasy, and it is. It is necessary to know from other sources about Ralph's hard work and ambitious purpose, to realize that this is a wishful daydream he had when he "let down" temporarily and thought of what he would like to do. Nonetheless, he automatically assumed that anything worth doing would involve other people—by *his* active choice. . . .

[at age 17]

Interview Interpretation Excerpt. Ralph likes people, accepts them easily, and has quite a wide acquaintanceship among them. Peers have gone out of their way to indicate liking and respect for him. An anecdote he tells shows us both his and their feelings and actions. He had been absent during some class elections, and the following refers to what happened when his classmates had written his name on ballots to elect him:

> Well, I wasn't there—so I couldn't have signed the paper that I was willing to be an officer. After I got back and found they'd elected me, I wasn't going to take it. I didn't want it too badly, and anyway, I'd had it for one year. There's only four years and I thought there was quite a few other kids that would like to have it, so I shouldn't take it. One of the teachers talked to me when I decided not to sign—which would have been the same as resigning. She pointed out that the kids would be peeved who had worked so hard to get me elected. So I stayed in; but I just figure people have a better opinion of me than maybe they ought to have. Or it might be I'm too critical about myself.

Sociometric Interpretation Excerpt. Peers continue to accord him high social status in later years. . . . He does seem able to evaluate others clearly, and does not hesitate to express negative as well as positive opinions. He had among the highest number of mutual choices of friends in the group, including six boys and one girl. . . .

Essay Interpretation Excerpt. . . . From the evidence we know of him, and of the opinions peers have of him already, this can be considered as virtually a self-portrait:

> *Essay (A Good Kind of Person in Our Community)* . . . Is a Helpful Person. A person that is not a continual gossiper. This person should be willing to do his share of work and take his share in the community and do the best he can in it and everything he does. He shouldn't be the quitting type of individual; he should want to take responsibilities and opportunities that should come up in the community. He should not be an "old stick in the mud"; he should get out and take part in this world. He doesn't have to be wealthy, but have a good reputation and personality. He should take part in anything that benefits the community. He should be a person that pays no attention to slander or anything that doesn't do him or anyone else any good. . . .

RALPH'S CHARACTER STRUCTURE

When Ralph was seventeen, he was asked by an interviewer what he would do if his family had to withdraw their financial support. His reply was, "Why, I'd get a job, I expect, and help the folks out till things got better again." This might sound like an ordinary response, if it were not that 90 per cent of his group saw in the question only the effect it would have on their own personal comfort and security. The actual "average" reply was something like "Get a job and support myself."

By contrast, Ralph took it for granted that if his folks couldn't support him, they would need his help. His spontaneous reaction was to assume responsibility, not because it would be "the thing to do" or because he knew he "ought to," but simply and directly as the natural thing to do. He did not consider it a sacrifice. He would work and turn over whatever money was needed, because he wanted to.

No one ever has or ever will accuse him of being a "do-gooder." He lives by his principles with little effort, and seldom thinks about them, except when an issue arises where action is necessary to support them. Most of the time, he is busy doing his job, or having a good time after his tasks have been finished. He does not "knock himself out" working; but he has always done a capable job at anything he undertook. . . .

Ralph has no more liking than the average boy for a new task; especially one that adults thrust on him. Unlike the average boy in his group, however, he soon discards his initial resistance. Here, as in school and work, he looks for the positive satisfactions to be found in the activity, whatever it is. Not surprisingly, he ends up enjoying himself, taking genuine pleasure in the use of his skills.

He has a functioning IQ level of 120, which is lower than his capacity of 130 only because he does not exert himself any further than is necessary to solve daily problems satisfactorily. He has a strongly practical, realistic outlook, which pervades even his mild fantasy. When he daydreams, it is almost always about real problems. He turns them over in his mind and figures out solutions which he later puts into effect. . . .

Ralph is not superhumanly mature in his emotional reactions, but he is about as mature as could reasonably be expected of an adolescent. The effective realism Ralph shows, and the emotional spontaneity that accompanies it, illustrate a salient feature of the morally mature person. In Ralph's case, it would almost be misleading to speak of ego and superego as separate, conflicting parts of him. Rather, he has a strong, well-integrated ego, into which he has incorporated most, though not all, of the "superego" principles which he once irrationally derived from his parents' pronouncements of right and wrong.

He is self-critical, but not very self-punitive beyond an acceptance of deserved blame. He assigns praise and blame realistically, and without much regard for formal status or prestige. . . .

He is thoroughly self-directing by now; little swayed by others, whether peers, parents, or other adults. His autonomy of judgment and action has always been unusual. A case in point is the anecdote told by a teacher . . . when Ralph was fifteen.

> One day in assembly Ralph came in late. Mr. Cates, our principal, had had a hard morning, I guess. Anyway, he lit into Ralph, and gave him

quite a tongue lashing; used some pretty strong language before he was done. Well, Ralph just stood there and took it, though he turned red. But after assembly was over, Ralph went to Mr. Gates' office and told him he had no business using language like that, or bawling him out so hard for being late. Ralph was polite about it, and explained why he had been late, but he certainly spoke right up to Mr. Gates, and Mr. Gates agreed that Ralph was right.

It is scarcely surprising that in voting on Ralph's "moral courage," most adult judges checked the description: "He will stand up for what is right. Although he tries to avoid conflict with others, he will strongly resist either adults or children if he feels anyone is being mistreated."

. . . At latest report, he was back from Army service in Germany, and was enrolled in the state university's college of agriculture. The odds are that he will not marry until he has finished college, and that when he does, it will be a girl who possesses good character, good sense, and sociability in about the same proportions that he shows. He has dated other kinds of girls, but the only one he was ever half-way "serious" about had just these qualities. . . .

Psychological Health and Classroom Functioning: A Study of Dissatisfaction with School among Adolescents

Philip W. Jackson and Jacob W. Getzels[2]

Through the years, efforts have been made to find out why some students are dissatisfied with school. In many cases this has been a guessing game which any number can play—parents, teachers, and administrators alike. The authors of the following report sought to establish a basis for these "best guesses" by way of a scientifically controlled experiment involving the differences between adolescents who are satisfied with their school experiences and those who are not. The findings as reported below may require you to adjust your thinking about students who are unhappy in school.

The problem of dissatisfaction with school among children is of theoretical and practical significance to both psychologists and educators. At the theoretical level dissatisfaction with school becomes part of a broader area of inquiry which aims at an understanding of the individual's functioning in an institutional setting and which includes studies of staff morale, role conflict, productivity, and the like. At a practical level the question of why children like or dislike school is directly related to the immediate problems of school dropouts, grouping procedures, planning for the gifted child, and the like.

As might be expected, a social phenomenon as important as dissatisfaction with school is not without its explanatory hypotheses. Some of these spring from empirical findings, while others appear to be part of our cultural ethos. Educational studies that point to an empirical linkage between school failure and school dropouts, and industrial studies that demonstrate a relationship between low morale and decreased output, lead one to suspect that reduced effectiveness in school (i.e., low scholastic achievement) would be a natural concomitant of dissatisfaction with the institution. Thus one would expect to find heightened dissatisfaction among students who have low ability or who are unable for one reason or another to deal adequately with scholastic material.

---

[2] from Journal of Educational Psychology, Vol. 50, No. 6, 1959, pp. 295-300. Reprinted by permission of authors and publisher.

More recently it has been suggested (although never adequately demonstrated) that many successful students with high ability are dissatisfied with their school experiences; the term "boredom" is often linked with the term "gifted child" in current expositions by educators. The boredom problem among "gifted" combined with the failure experiences of the low ability child suggests that the greatest number of dissatisfied students is to be found among extreme ability groups. Those who are low in ability and achievement would be expected to show dissatisfaction because of the numerous frustrations they experience in the classroom. Those who are high in ability and achievement would be expected to show dissatisfaction because of the relative lack of stimulation which they experience in the classroom.

Both of these explanations (or, more accurately, hypotheses) contain the implication that dissatisfaction with an institution arises out of the individual's interaction with that institution. An alternative explanation might be that the individual brings a set toward satisfaction or dissatisfaction *to* the institution—that it is a reflection of a more pervasive personal orientation and that success or failure experiences within the institution have a limited influence upon it. This hypothesis obviously places more emphasis than do the earlier ones upon psychological variables, as opposed to environmental variables, in understanding dissatisfaction with school. The research described here was designed to test the relative merit of these alternative views.

PROBLEM

The purpose of this investigation is to examine the differences in psychological functioning and classroom effectiveness between two groups of adolescents—those who are satisfied with their recent school experiences and those who are dissatisfied.

SUBJECTS AND PROCEDURE

The Ss of this investigation were two groups of adolescents identified from among 531 students enrolled in a Midwestern private school. These students were divided into five class groups ranging from the prefreshmen to the senior year of high school. In this institution a single grade, the prefreshmen, is substituted for the usual seventh and eighth grades. The instrument used to select the experimental groups, called the Student Opinion Poll, was a 60-item opinionnaire designed to elicit responses concerning general satisfaction or dissatisfaction with various aspects of school—viz., the teachers, the curriculum, the student body, and classroom procedures. The following are sample items, one in each of the four areas.

3. While there are some differences among them, most teachers in this school are:
    a. Very inspiring
    b. Quite inspiring
    c. Somewhat inspiring
    d. Not inspiring

16. Most of the subjects taught in the school are:
    a. Interesting and challenging
    b. Somewhat above average in interest
    c. Somewhat below average in interest
    d. Dull and routine

14. From the standpoint of intellectual ability, students in this school are:
    a. Too bright—it is difficult to keep up with them
    b. Just bright enough
    c. Not bright enough—they do not provide enough intellectual stimulation

5. The freedom to contribute something in class without being called upon by the teacher is:
    a. Discouraged more than it should be—students do not have enough opportunity to have their say
    b. Encouraged more than it should be—students seem to be rewarded just for speaking even when they have little to say
    c. Handled about right

The instrument was scored by giving one point each time the S chose the "most satisfied" response to a multiple-choice item. Thus, the possible range of scores was from 0 to 60. For the total school population the mean score on the Student Opinion Poll was 37.30; the standard deviation was 9.57. The experimental groups were chosen as follows:

> Group I—the "dissatisfied" group—consisted of all students whose score on the opinionnaire was at least one and a half standard deviations *below* the mean of the entire student body. This group contained 27 boys and 20 girls.
>
> Group II—the "satisfied" group—consisted of all students whose score on the opinionnaire was at least one and a half standard deviations *above* the mean of the entire student body. This group contained 25 boys and 20 girls.

The experimental groups were compared on the following variables:

1. *Individual intelligence tests.* In most cases this was the Binet. A small number of children were given the Henmon-Nelson, the scores of which were converted by regression equation into equivalent Binet scores.

2. *Standardized verbal achievement test.* The Cooperative Reading Test was used. Prefreshmen and freshmen were given Test C_1, Form Y; older students were given C_2, Form T.

3. *Standardized numerical achievement tests.* Because of differences in the curricula of the various grade groups it was not possible to administer the same test of numerical achievement to all Ss. The following tests were given according to grade placement:

Prefreshmen—Iowa Everypupil Arithmetic Test, Advanced Form O.
Freshmen—Snader General Mathematics Test.
Sophomores—Cooperative Elementary Algebra Test, Form T.
Juniors—Cooperative Intermediate Algebra Test.
Seniors—Cooperative Geometry Test, Form 2.

4. *California Personality Test.* Two forms of this instrument were used. The intermediate form was given to prefreshmen; the secondary form was given to all of the older groups. Two subscores were obtained, "personal adjustment" and "social adjustment."

5. *Direct Sentence Completion Test.* Ss were asked to complete 27 sentences of the type: "When I saw I was going to fail I . . . .," or, "I think my father is . . . ." Each sentence was given a plus or minus score depending upon the presence or absence of morbid fantasy, defeatism, overt aggression, and the like. The total score was the summation of the individual sentence scores.

6. *Indirect Sentence Completion Test.* This instrument was identical with the Direct Sentence Completion Test except that proper names were inserted for the pronoun "I," thus changing it from a "self-report" to a "projective" instrument. Boys' names were used in the male form of the instrument and girls' names in the female form. The instrument was presented as a "thinking speed" test. To reinforce this notion Ss were asked to raise their hands when they were finished and the elapsed time was written on their test booklet. This instrument was administered approximately two weeks prior to the administration of the Direct Sentence Completion Test.

7. *Group Rorschach.* Cards III, IV, IX, and X were projected on a screen. For each picture the S was presented with 10 responses and was asked to choose the three which he thought to be most appropriate. Each list of 10 contained four "pathological" responses. The S's score was the number of nonpathologic responses among his 12 choices. This group technique follows that described by Harrower-Erikson and Steiner (1945).

8. *Teacher ratings.* Each student was given three ratings by his present teachers. These ratings included: (*a*) his general desirability as a student; (*b*) his ability to become involved in learning activities; and (*c*) his possession of leadership qualities. Teachers were required to place all of their students on a five-point scale so that Categories 1 and 5 each contained one-twelfth of the students; Categories 2 and 4 each contained one-fourth of the students; and Category 3 contained one-third of the students. The values 5, 8, 10, 12, and 15 were assigned to the categories and were used in quantifying the ratings.

9. *Adjective Check List.* From a list of 24 adjectives each student was asked to choose the 6 which best described his characteristic feelings while attending classes in particular school subjects. The list contained 12 "positive" (e.g., confident, happy, eager, relaxed) and 12 "negative" adjectives (e.g., bored, restless, misunderstood, angry). The use of the negative adjectives by the experimental groups was analyzed both quantitatively and qualitatively.

RESULTS

With the exception of the adjective check list the results of all comparisons are shown in Table 1. Contrary to popular expectations the "satisfied" and "dissatisfied" students did *not* differ from each other in either general intellectual ability or in scholastic achievement. Those differences which did appear were linked to psychological rather than scholastic variables.

More specifically, each of the test instruments designed to assess psychological health or "adjustment" was effective in distinguishing "satisfied" from "dissatisfied" students within one or both sex groups.

For both sexes the experimental groups were differentiated by their scores on the California Test of Personality. The experimental groups of boys were further differentiated by their responses to the Indirect Sentence Completion Test. For girls additional differences appeared in their responses to the Direct Sentence Completion Test and the Group Rorschach.

TABLE 1 Mean Scores, Standard Deviations, and *t* Statistics for Satisfied and Dissatisfied Adolescents on Dependent Variables†

	Boys					Girls				
	Dissatisfied (*N* = 27)		Satisfied (*N* = 25)		*t*	Dissatisfied (*N* = 20)		Satisfied (*N* = 20)		*t*
	$\bar{x}$	s	$\bar{x}$	s		$\bar{x}$	s	$\bar{x}$	s	
IQ	134.85	14.58	136.44	14.59	ns	128.45	15.06	128.00	11.45	ns
Verbal Achievement	49.96	8.69	50.68	7.87	ns	50.63	9.11	52.28	6.76	ns
Numerical Achievement	50.35	9.75	52.17	10.52	ns	47.78	8.61	48.50	10.26	ns
Calif. Personal Adjust.	45.58	9.82	53.40	7.63	3.18**	47.90	13.03	54.76	9.25	1.86*
Calif. Social Adjust.	44.85	11.37	51.84	8.93	2.45**	47.00	13.15	55.76	7.89	2.50**
Direct Sentence Comp.	46.93	10.58	49.25	10.02	ns	46.65	12.01	54.00	5.73	2.53**
Indirect Sentence Comp.	47.19	9.61	51.29	6.95	1.75*	49.60	10.35	53.47	7.97	ns
Group Rorschach	48.35	10.66	47.44	10.30	ns	47.35	11.35	54.16	8.32	2.15**
Teacher Rating I: Desirability as a student	8.94	1.83	10.35	1.70	2.85**	9.84	1.91	10.05	1.59	ns
Teacher Rating II: Leadership qualities	9.01	2.08	10.13	1.96	2.00*	9.91	2.37	10.04	1.24	ns
Teacher Rating III: Involvement in learning	9.09	2.14	10.23	1.69	2.14**	9.67	2.32	10.33	2.11	ns

*Significant at the .05 level.

**Significant at the .01 level.

†With the exception of IQ, all scores were based upon parameters of the total student body from which the experimental groups were drawn. The scores of all tests were transformed to T scores with a mean of 50 and a standard deviation of 10. For the total population the teacher ratings have a mean of 10 and a standard deviation of 2. The mean IQs for the total school population are: boys, 132, girls, 128.

On all of these test variables the "satisfied" group attained the "better" score—i.e., the score signifying a more adequate level of psychological functioning. It is also worthy of note that whenever a significant difference appeared, the mean score of the total student population fell between the mean scores of the experimental groups. Thus, the variables that differentiate the experimental groups tend also to distinguish them from the total population of students.

In addition to showing differences on psychological health variables, "satisfied" and "dissatisfied" boys were perceived differently by their teachers. On all three of the teachers' ratings the "satisfied" boys received more favorable judgments than did "dissatisfied" boys. The fact that this result does not appear to be true for girls lends support to the popular expectation that boys are more likely to express their negative feelings publicly than are girls. This hypothesis receives some confirmation from the results of the adjective check list which are described below.

In Table 2 are shown the number of Ss who chose negative adjectives when asked to describe their typical classroom feelings. As they are arranged in Table 2 the adjectives reflect the rankings of four judges who were asked to rank the words on the degree to which they involved an implicit or explicit criticism of others. The 12 adjectives were typed on separate cards and were accompanied by the following directions:

> On the following cards are a number of negative adjectives which a person might use to describe himself. Rank these adjectives on the degree to which they involve an implicit or explicit criticism of others. For each adjective ask the question: If a person used this adjective *to describe himself* would he also be implicitly or explicitly criticizing others? Give a rank of 1 to the adjective which would be *least* critical of others and a rank of 12 to the adjective which would be *most* critical of others.

TABLE 2 Number of Subjects Choosing Negative Adjectives When Asked to Describe Typical Classroom Feelings

Adjective	Boys			Girl		
	Dissatisfied (N = 27)	Satisfied (N = 25)	Chi Square	Dissatisfied (N = 20)	Satisfied (N = 20)	Chi Square
Inadequate	19	16	ns	17	7	10.42**
Ignorant	19	13	ns	15	3	14.54**
Dull	25	16	6.36*	16	9	5.60*
Bored	24	13	8.61**	20	13	8.48**
Restless	20	15	ns	19	9	11.90**
Uncertain	20	21	ns	17	13	ns
Angry	15	4	8.76**	13	4	8.29**
Unnoticed	19	5	13.25**	7	4	ns
Unhelped	18	8	6.24*	9	6	ns
Misunderstood	16	5	8.31**	5	2	ns
Rejected	12	3	6.66**	4	0	ns
Restrained	17	2	16.91**	9	3	4.29*

*Significant at the .05 level.
**Significant at the .01 level.

Four psychologists served as judges. The average rank order correlation among the four sets of judgments was .84. The adjectives are presented in Table 2 according to the ranked sum-of-ranks of the judges. The adjective "inadequate" was judged as being most free of criticism of others, while the adjective "restrained" was judged as involving the greatest amount of criticism of others.

As might be expected, the use of negative adjectives was far more frequent among dissatisfied students than among satisfied students. Four adjectives seemed to discriminate equally well between the experimental groups for both sexes; these were: "bored," "angry," "restrained," and "dull."

An examination of Table 2 also suggests the existence of sex differences in the students' description of their typical classroom feelings. Remembering the classificatory scheme by which the adjectives are ranked in Table 2, it appears that dissatisfied girls are somewhat less likely than dissatisfied boys to use negative adjectives involving implicit criticism of others. Dissatisfied boys, on the other hand, are less likely than dissatisfied girls to be distinguished from their satisfied counterparts by the use of adjectives *not* involving implicit criticism of others. If one thinks of criticism directed towards others within Rosenzweig's schema of "intropunitiveness" and "extrapunitiveness,"[3] then the observed sex differences may be conceptualized by saying that dissatisfied girls are more *intropunitive* than satisfied girls; dissatisfied boys are more *extrapunitive* than satisfied boys.

This difference in the direction of aggression may provide a context for the obtained differences in teacher ratings discussed earlier. If the dissatisfied boy is more likely than his female counterpart to lay the blame for his dissatisfaction upon others in his environment, particularly school authorities, it is reasonable to expect that he would be viewed as somewhat less than completely desirable by the classroom teacher. The dissatisfied girl, on the other hand, seems more willing to direct her negative feelings inward, thus avoiding the additional risk of counter-aggression by school authorities or by other adults.

---

[3] Murray, H. A., **Explorations in Personality** (New York: Oxford Univ. Press, 1938).

DISCUSSION

Two major conclusions are suggested by the findings of this study. First, dissatisfaction with school appears to be part of a larger picture of psychological discontent rather than a direct reflection of inefficient functioning in the classroom. It is almost as if dissatisfaction were a product of a pervasive perceptual set that colors the student's view of himself and his world. Second, it appears that the "dynamics" of dissatisfaction operate differently for boys and girls. Boys seem to project the causes of their discontent upon the world around them so that adults are seen as rejecting and lacking in understanding. This tendency to blame adults may be one reason why these boys are seen as less attractive by teachers than are satisfied boys. Girls, on the other hand, are more likely to be self-critical, turning blame for their dissatisfaction inward. Feelings of inadequacy, ignorance, and restlessness more sharply differentiate satisfied and dissatisfied girls than is the case with boys. This tendency to be intropunitive may partially explain why teacher ratings fail to distinguish between our two experimental groups of girls.

The atypicality of the sample population used in this research places a number of limitations upon the inferential statements which can be made on the basis of these findings. Fortunately, however, the major portion of the investigation has recently been replicated using seventh and eighth grade lower-class Negro adolescents as Ss. The findings of the latter study are essentially the same as those reported here. Again the psychological rather than the intellectual or scholastic variables discriminated between satisfied and dissatisfied students. The findings with respect to the use of negative adjectives were not as clear-cut but, again, every intropunitive adjective was used more frequently by dissatisfied girls as compared with dissatisfied boys, while the latter exceeded the girls in their use of extrapunitive adjectives.

It should be noted that even the most satisfied students made some use of negative adjectives when asked to describe their typical feelings in the classroom. Also, the average member of the satisfied group expressed some dissatisfaction on one-sixth of the questions in the Student Opinion Poll. These two observations should serve as ample cautions against the danger of interpreting any sign of dissatisfaction with school as symptomatic of deeper psychological difficulties. Apparently, some degree of dissatisfaction is the rule rather than the exception. Nonetheless, the responses of the extremely disgruntled group of students leave little doubt that dissatisfaction with school, like beauty, is frequently in the eye of the beholder.

SUMMARY

This investigation examines the differences in psychological functioning and classroom effectiveness between two groups of adolescents—those who are satisfied with their recent school experiences and those who are dissatisfied. The major findings point to: (*a*) the relevance of psychological health data rather than scholastic achievement data in understanding dissatisfaction with school; (*b*) the importance of differentiating the attitudes of dissatisfied girls from those of dissatisfied boys, the former being characterized by feelings of personal inadequacy, the latter by feelings critical of school authorities. Rosenzweig's concepts of intropunitiveness and extrapunitiveness are applied to these findings and a relevant theoretical framework is proposed.

Our Troubles with Defiant Youth

Fritz Redl[4]

Many attempts have been made to observe and define the changes in children's values and identifications as they grow older and to delineate the various patterns of behavior that develop. The following article points out the fallacy of the "teen-ager" stereotype and shows the diversity of motivation that may lie behind "defiant" behavior. Many times school management or mismanagement may make the difference between a solution and failure for the growing youth. Redl has had intensive and vast experience with defiant children. He challenges some of our preconceived thinking and concludes with suggestions meaningful for teachers.

The term "delinquency" is used these days generally in vague and confusing ways. Clinically the behavior referred to as "delinquent" may cover a wide range of entirely different afflictions. Sometimes the word is as loosely applied as the popular term "bellyache" which may cover anything from temporary upset after eating too much ice cream to stomach ulcers or acute appendicitis. Nobody in the medical field today would attempt to answer the question "what should be done about it" before finding out concretely just which of the afflictions gave rise to the "bellyache." Unfortunately, however, in the field of human behavior and mental health, the public has not yet reached as wise an acceptance of the variety of ills which may result in excessive aggression or as much respect for the need for specific diagnosis.

The concept of "defiant youth" does *not* coincide with the delinquency problem. Some "defiance" is part and parcel of the normal growth process. It may even be a desirable though an uncomfortable forerunner of a character trait commonly referred to as "integrity" or "spine." Other forms of defiance, however, do overlap with the kind of trouble usually referred to as "delinquency" and constitute a great strain on our communities. On the other hand, not all delinquents show overt defiant behavior. In fact some of the hardest to reach cases exhibit a very "slick" surface conformity as a safe cover for the cultivation of a totally immoral outlook on life or a safe buildup for a long-prepared criminal "splurge."

These facts leave persons concerned with the behavior of today's youth facing two important questions:

1. In what areas are confused public opinion and juvenile delinquency most seriously blocking clinical progress and preventive planning?

2. What types of youthful defiance need to be differentiated in order to begin wise preventive and therapeutic planning?

AREAS OF CONFUSION

There are three main areas of confusion:

1. The individual and the symbol

Most of us have been annoyed at one time or another by the fact that children go through a phase where they suddenly consider us, their parents and teachers, as just a general symbol of "the adult." They seem suddenly to have emptied us of all personal relationships with them. We stop being Mary's dad or Johnny's older friend and represent simply "those

---

[4] Reproduced, with permission, from Children, Jan.-Feb. 1955, 2:5-9, Children's Bureau, U.S. Department of Health, Education, and Welfare.

adults," the power group from whose grip they are trying to emancipate themselves.

However, we adults don't usually recognize that we begin to do the same thing to our children as soon as they enter the development phases of preadolescence and adolescence. In these periods Daddy does have moments of reacting to his son not so much as a person, but as though he represented the "world of adults" pitched against "youth" which is getting out of hand. Dad's little boy suddenly becomes not his son whom he knows and loves so well, but just an "example" of the way postwar young people act when you don't "keep them in line."

This peculiar phenomenon, natural and harmless within limits, often becomes a real block to wise handling of youthful behavior. It is responsible for much avoidable antagonism between the generations. The more we feel threatened by what youngsters do, the more we fall into this form of stereotyping. As a result many situations grow into sham battles over a "cause," when the immediate problem could have been easily solved if the two adversaries had remained what they were to begin with: two *people* having it out.

2. Some of my best friends are teenagers

There seems to be a tendency in the adult world toward hostility to youth as such which is in striking contrast to the fact that we all "like kids," especially our own or those entrusted to our care. Something seems to happen to the most child-acceptant of us when we suddenly switch from personal involvement with a child to a collective view of the youth problem. This shift in focus tends especially to occur when a youngster becomes involved in some rather atrocious crime—although the act has so obviously grown out of extreme disorganization within the world surrounding him, such a long and involved chain of disturbing events that nobody could logically regard the outcome as "typical" youthful behavior.

A 14-year-old boy tries to defend his mother against the onslaughts of his drunken father and hits him a bit too hard with the piece of pipe he grabs in despair. Why are our newspapers so ready to call this a "teenage crime"? By doing so aren't they implying that this boy is "typical" of the youth of our time, or at least that something about being a "teenager" has brought about the unfortunate event which so obviously stemmed from the pathology of the adults in the boy's life? On the other hand, do the papers write up as a typical teenage deed the heroism of Bobby, an Eagle Scout, who rescued a little girl from drowning? On the contrary Bobby Smith, aged 15, remains Bobby Smith, not a representative of his age, and the heroism is credited to himself. In other words, teenagers are regarded as a breed suspect until proven innocent. Their bad deeds redound on the whole age group. Their good deeds point only to the exceptions that prove the rule.

When public attitudes incline toward stereotyping of this sort there is cause for deep concern. Collective suspicion and negativism of one group toward another always backfire by engendering conscious or unconscious collective counter-aggression and distrust from the other side. To increase intergroup tensions between the "world of grown-ups" and the "youth of our time" is the last thing we should do at this point in history. Since we have paid such prices in the past for collective prejudices in the areas of race, religion, class, and caste we should know something about the high cost of group psychological pathology.

3. An optical illusion

Adult disgust with "youth" is easily aroused when the young people gather in mobs. Their boisterous and rather inconsiderate behavior gets on our nerves and reinforces our suspicious stereotypes. Thus, unfortunately, we are taken in by a kind of "optical illusion," for loud and thoughtless behavior is often more typical of the group situation individuals are in than of the individuals themselves. If you doubt this, just remember the last large convention held in your town. Many riotous teenagers would have trouble living up to what otherwise dignified adults can do to hotel-room towels, ashtrays, and doorknobs when they are convening in somebody else's city.

While much remains to be learned about the impact of group psychological excitement on the behavior of the human individual, age, or "teenage," as such is not the main factor involved. The problem of how to predict which person's self-control and value system will melt under a certain amount of group psychological heat and how to help individuals keep sense and control intact under free-floating contagion is one of the most urgent research issues before us. Instead of allowing ourselves to become irritated at an "age range," we should take steps to investigate thoroughly this larger problem of group pathology.

In summary, it seems as important for the fields of mental hygiene and preventive psychiatry to tackle the collective confusions about youthful behavior in which the present adult generation indulges as to cope with the problems of youth itself. We have made wonderful strides with analogous problems in the field of physical medicine and health. Through the astounding successes of public-health education on a variety of levels, present public opinion is enlightened about the nature of invisible germs, accepts even unpleasant facts about the nutritive values of certain foods, and no longer quarrels with the wisdom of certain "first aid" directives even where these contradict deeply ingrained popular myths or personal feelings. But in the field of human behavior the major task of "deconfusing the public" lies ahead.

WHAT ABOUT "DEFIANCE"?

Without attempting anything as ambitious as an outline of symptomology and etiology of the "defiant child," we can differentiate a few of the outstanding problems that usually sail under this heading. Here too conceptual confusion, while not the core of the difficulty, is a dangerous roadblock on the way to progress.

1. Developmental defiance

In spite of all the talk about "adjustment," we would not really want children to "adjust" to everything all the time. If they did we would think they lacked "spine." Healthy development on the part of a child is fostered by strengthening not only his ability to adjust to outside demands, but also his ability to defend his own integrity against wrong demands made by others. We want Johnny to be respectful to his teacher but we don't want him to run after the first designing bum that offers him candy just because the man is an adult and looks like a mixture of Abe Lincoln and Santa Claus. On the contrary, we want our children to retain the capacity for *intelligent rebellion*—courage to stick to what they believe in even against strong-armed pressure and the fear of becoming unpopular with the mob.

All traits that we want eventually to see in our children must grow through a range of developmental phases. "Intelligent rebellion," too, needs leeway to be learned and practiced. Of course, while being practiced it often looks anything but intelligent and can be very annoying to the adult who has to live with it. We know from our studies of child development that certain age ranges seem to be especially cut out for the practice of "emancipation acrobatics." The negativism of the child between 3 and 5 as well as the strong "emancipation" efforts of the young adolescent are normal phases in child development. While uncomfortable for educator and parent, these rebellious phases are important as preparation for independence. We also know that defiance which is part of this developmental process is *not habit forming*. It tones down by itself as soon as the character trait of integrity, for the sake of which it was displayed, is sufficiently secured.

Although we have many books that tell us how to cultivate "intelligent rebellion" in the well-adjusted child in relation to the child's dependence on individuals, we have little information on how to help him keep his integrity when confronted with gang and mob pressure. One of the Nation's greatest problems at this time is to find out how to help our young people stick to what they believe in, even in defiance of whatever opinion or action might be popular at the moment with the rest of the youthful crowd. Actually a lot of behavior usually termed "defiance" is exactly the opposite. The 16-year-old who participates in an incident of vandalism because he is afraid of being called a sissy is not a *defiant* child. He is a coward, an overconformist, a spineless lickspittle for public acclaim. The fact that he is overdependent on the wrong opinions does not change the fact that submission rather than defiance is the real problem at hand.

Clinically speaking, then, we have to look a few inches below the surface before we can know what the problems in any specific "defiant act" really are. Where behavior falls into the category of "developmental defiance," it presents us with an educational challenge, but we must not be fooled into regarding it as "delinquency."

2. Reactive defiance

Some youthful defiant behavior may be compared to the process of regurgitation. If you pour poison or stuff pins down somebody's throat, his organism will probably rebel by choking reactions to ward off the hurtful intrusion. Vomiting under such conditions is not symptomatic of illness. On the contrary, it is the defense of a healthy organism against hurt from the outside.

A lot of youthful "defiant" behavior falls into the same category. It is *not* the outcropping of a corrupt or morbid personality, but the defense of a healthy one against the kind of treatment that shouldn't happen to a dog, but often does happen to children. At close inspection even many of the rather frightening and disgusting outbursts of youthful defiance are of this type. In a group of normal schoolchildren bored beyond limit by stupid teaching methods, the intelligent ones will be the first to become "hard to handle." Their misbehavior is a defense against the demoralizing impact of excessive boredom. If a child with deep-seated anxieties is put into solitary confinement under frightening circumstances, the resulting temper tantrum will not be his "warped personality" coming to the fore but his desperate defense against total breakdown into mental disease. His frantic muscle spasms and aggressive mauling of the surrounding outside world are the expression of his inward terror.

Such "reactive defiance" calls for consideration not only of what's wrong with the child but also of what is wrong with what we are doing to him. Every case of really pathological and dangerous defiance which I have had a chance to study closely has had its origin at some time in "reactive" defiance. Many people had to do the wrong things consistently for a long time to the children involved to produce such a severe degree of disturbance. This means that one of our greatest preventive opportunities lies in developing and applying greater knowledge about the most advantageous setting for growing youngsters and in helping adults toward a maximum of wisdom in their reaction to youthful behavior.

3. Defiance as a wrapping

Some defiant behavior is quite clearly "unprovoked," or at least seems so at first sight. Why should Billy, a well-loved and well-cared-for child, one day suddenly act up, hanging on to furniture and kicking and biting when you try to make him go to school? His unwarranted behavior toward you looks dangerously like the "rebellious child" in the making. It looks and feels like that, until you learn that Billy has deep-seated fears of any "crowd" situation—fears that are irrational but extremely intense. The panic aroused in Billy's mind is in itself a "sickness," an anxiety neurosis. This is the affliction, not the "disrespectful disobedience" which he displays when confronted with it.

Other "defiant acts" by youthful offenders may be the secondary accompaniment of any of a variety of mental diseases. I once knew a child who when compulsively hit by sudden intense spurts of fantasy images would get up during class and wander around, impervious to threats of punishment. He *seemed* to do all this "just in order to spite authority." Yet nothing was further from the truth. At these moments, he did not even *perceive* the teacher's presence nor any of the world around him. He had no thought of being "spiteful." It would have been easier to help him if he had, for this child was out of contact with reality far beyond the normal degree of childish daydreaming. This sickness is worse than the usual "defiance." But the important point is that it is *different* and calls for entirely different treatment and preventive measures.

Defiance which comes as a "wrapping" around some other disease is especially frustrating. Because in such cases the techniques so often found helpful in dealing with other defiant children are totally ineffectual, the adult's wrath at the defiant behavior is apt to be increased by his fury at his helplessness. The result is a loud cry for some form of physical punishment. Unfortunately, in these cases physical punishment is the most futile and most damaging technique we could use. Where defiance is a "wrapping" no matter how smell-proof or loose, the only thing to do is to tackle the disease behind the wrapping. All other efforts are useless.

THE DEFIANT EGO

By a "defiant ego" I mean the ego that has thrown itself on the side of the child's impulsivity, defending it against reason and the voice of his "better self" with enormous skill and strength.

This, unfortunately, is the most neglected although the most serious form of defiance. While from the outside it looks very much like other types of defiant behavior, at closer range it reveals itself as a most pernicious and serious affliction which educator and psychiatrist so far are completely helpless to change.

Children with "defiant egos" act destructively any time they so desire because they enjoy it. If they want their "fun" they are going to have it. Either they have not developed that "voice from within" that would make them feel bad about "fun" that is unjustly had at somebody else's expense; or they have developed very skillful tricks of putting that "voice" out of commission should it tend to interfere. Diagnosis, however, is not easy. The size of the offense or the intensity of the defiance gives no clue as to what type of defiance is involved. It is not true that rowdyism marks a child as sickest or worst, while milder or even "cute" forms of rebellion can be passed by as harmless. Nuisance value to others, or intensity and degree of defiance are only a few of the criteria for sizing things up for what they really are.

I know of actions close to murder, which have had little to do with real defiance, but are reactive or psychoneurotic in origin. I also know of cases where as mild a symptom as polite withdrawal from arts and crafts activities—but always exactly when whim dictated and always accompanied by total disinterest and bland imperviousness to the persuasiveness of others—proved to be the forerunner of very severe character disorders which later blossomed into openly recognizable symptom displays.

A detailed description of the "defiant ego" is not possible in the space available. However, this is the type of affliction which may justifiably be classified as "delinquency," even if the defiance displayed does not seem to have any "legal" implications. The early recognition of such afflictions and the determination of conditions for preventive and therapeutic work with them constitute the main themes of the present project at the Psychiatric Children's Unit at the National Institute of Mental Health.[5, 6] [See "Child Study in a New Setting," *Children*, Vol. 1, No. 1.]

IN SUMMARY

The problem of "defiant youth" is complicated by the fact that the adult generation generally lacks conceptual clarity in discussing the issues involved. Furthermore, "defiant" behavior by children seems to bring out the worst in adults, provoking them to react with their own feelings rather than with deliberate thought. The collective "suspicious antagonism" which communities often display against the "teenagers" as a "caste and class" is likely to foster or increase a collective spirit of defiance among youth itself.

The actual phenomenon of "defiance" has many degrees ranging from "light" to "severe and dangerous," from "cute" to "morbidly obnoxious." Unfortunately, the degree does not indicate in any given case what lies behind the behavior. No matter which specific form of behavior defiance may take, it may derive from any one, or a mixture of, at least four types of afflictions. . . .

The answer to the problem of defiant youth must be sought in the direction of more practice-geared research, greater concerted effort toward the education of the public to the causes of defiance, and more courage to think straight even under the impact of panic and wrath.

---

[5] Redl, and David Wineman, Children Who Hate (Chicago: Free Press, 1951).

[6] Redl and Wineman, Controls from Within (Chicago: Free Press, 1952).

Adolescence: Implications for the Teacher

Barry T. Jensen[7]

All of us "know" much more about adolescents than we can state in an organized form or apply systematically. The special focus of the article below is the point of beginning with what is known about young people's motivation and behavior and using this knowledge as a basis for planning and evaluating our efforts. Particularly clear are the author's implications for teachers, a blend of fundamental theory and classroom practice.

It is intended to do three things in this article: (1) establish a few general propositions as a base for the following discussions; (2) discuss, in general terms, some implications of these propositions for the teacher's practice; and (3) illustrate what a teacher might do as a result of accepting the views described.

SOME GENERAL PROPOSITIONS

The following six propositions are considered as guides for the conduct of a teacher dealing with adolescents.

1. As Snygg and Combs suggest, the basic motive of all organisms is the preservation and enhancement of the phenomenal self. By this we include the physical self and the psychological entity meant by "I" (both the personal being and the extended self which includes personal productions, friends, etc.). It is the adolescent's aim to maintain, at the very least, his concept of himself and, whenever possible, to enhance his status by such things as improved standing among his peers.

2. Success is defined in terms of personal goals, rather than the goals or standards set by someone else. The material on level of aspiration is considered as support for this proposition.

3. Behavior is rational. From the point of view of an outsider, a specific action of any individual may seem strange. In terms of the individual's needs and the situation as he sees it, his action is the best of which he is capable at that moment, and it is appropriate to the perceived situation.

4. The adolescent acts to defend his phenomenal self. When an attack is perceived he may become aggressive, or he may withdraw, or do anything else which he perceives as contributing to the preservation of his self.

5. The space of free movement (mentioned by Lewin) limits the adolescent's behavior and affects his adjustment. In essence, this refers to the psychological area in which the individual feels free to act. He may be afraid to act because of actual limitations imposed by an authority or because he thinks there are limitations. He may hesitate because he feels that he lacks the necessary skill. Or he may not know just what the limits are. In any case, when he sees his limits as confining, his behavior is also restricted.

6. One of the major problems confronting the adolescent is the accomplishment of the developmental tasks set for his group.

SOME GENERAL IMPLICATIONS

From the propositions stated above, we can suggest some implications for the teacher.

1. In general, we can say that the teacher will do what he can to enhance the pupil's

---

[7] from **Education**, Dec. 1955, 76:239-241. Reprinted by permission of author and publisher. The author is now affiliated with the Rand Corp. but was on the staff in the School of Education at Stanford Univ. when this article was written.

phenomenal self and will avoid detracting from the pupil's concept of this self. More specifically, we can say that the teacher will help the pupil to gain status (this must be what the adolescent, not the teacher, considers as status). For instance, the teacher will make it possible for the adolescent to perform adequately in the things he undertakes. This can be done by arranging the conditions appropriate to the level of the pupil's skill and/or by teaching him the necessary skill. Or the teacher may help him to choose more appropriate goals.

The teacher will refrain from activities damaging to the pupil's self concept. This would mean refraining from such [things] as scoldings, ridicule, or comments implying childishness or immaturity. This paragraph is not intended to imply that the teacher must mention only the more pleasant things about pupils. In one of the most mentally healthful classes the writer has ever visited the teacher and pupils discussed respective weaknesses in public. The discussions were intended, not as ridicule, but as recognition of limitations and of signs of improvement. Adolescents need to learn many things; they want to grow up. Help sincerely given, with recognition of the feelings of the individual and with respect for him usually will be readily accepted.

2. What the teacher considers as adequate performance may be considered by the adolescent to be poor if his goal is to excel. On the other hand, what the teacher regards as poor performance may be ideal to the adolescent if it conforms to peer standards. The individual's level of aspiration is set in terms of his needs and his perception of his ability. The teacher, in making "demands" upon the pupils, should always keep this in mind. In dealing with the adolescent, demands of the peer group are more important than the teacher's expectations. The teacher is headed for trouble if he attempts to *force* the youth into a form of behavior which is opposed to standards of the individual and his group.

3. If a teacher considers the actions of a pupil as reasonable from that pupil's point of view his behavior is likely to be different than if he disregards the individual's needs. For instance, this teacher is not apt to label behavior as "silly" or to call the pupil "mean" or by any of the other 10,000 derogatory names. Rather, the teacher will find ways to get the pupil to evaluate his own behavior; then he will help the pupil to learn more appropriate ways of analyzing the situation or of responding to it. A teacher with this attitude will attempt to remove the causes, rather than to punish the behavior. He will attempt to involve the pupils in self regulation, rather than forcing them to accept institutional authority. When observing pupils he will ask, "What are they trying to accomplish?"

4. Inasmuch as the adolescent will defend himself, a teacher has a means of judging the effects of his actions. The adolescent considers himself as a young adult and is seeking ways of reassuring himself that he is grown up. When this pupil is aggressive toward his teachers, or shows hostility in another way, it is a symptom that the youngster is uncomfortable. Instead of scolding or attempting to force the pupil into conformity, a teacher might better help the youth gain some self-enhancement. It is a good idea to let the youth blow off steam and help him to recognize that he is angry as a result of being made to feel inadequate. Some teachers can do much to help pupils relieve their feelings. But the main implication of this principle is that the teacher's sensitivity to human feelings is a tool for learning how things are going with the youths in his charge.

5. The space of free movement is a psychological area. Freedom is not present when the adolescent has no option—when every step is prescribed and the prescriptions are numerous. On the other hand, freedom is not anarchy. The adolescent is often rather insecure and needs some guides, some limits on his behavior, yet he needs to assert his independence and appear to be free of restraints from others. The teacher should mark out the boundaries for the youth; or where possible, work out boundaries with the pupils. There will be some regulations but there will be a great deal of freedom to explore and make decisions. The teacher may let the pupils know that he expects attention when he is speaking, but he does not prescribe the way in which people should sit while he speaks. The pupils are helped to realize that

there must be some rules, but that they are free to move within this area.

6. Implications of the concept of developmental tasks relate to classroom activities ranging from selection of specific content of lessons to the extra things that the teacher does not include in his day's plan. More important, the teacher should know the developmental tasks confronting his pupils (this is more than knowing what proportion of the girls read movie magazines). The teacher in any class can easily find opportunity to help the youth relate himself to the world. For instance, the teacher can foster the development of skills in heterosexual relationships by simply permitting boys and girls to associate freely and casually.

SOME EXAMPLES OF TEACHER BEHAVIOR

In reflecting on classroom incidents which he has observed, the writer can remember some which stand out as being consistent with one or more of the propositions, and some which were not. Most of the events remembered seem to be neutral—that is, they seemed to be centered about tasks to be done and the teacher and pupils appeared to have a working agreement which permitted them to get some lessons covered. Here are four examples of "good" teacher behavior.

1. At the beginning of a new term the teacher of a class of freshmen in a large high school addressed them as Miss Jones or Mr. Smith. A pupil remarked, "It makes us feel so grown up."
2. In a class discussion a student teacher encouraged pupils to contribute to the discussion and then, when necessary, asked questions which helped the pupils to re-formulate their statements so that they were of significance.
3. A pupil who had been quite unsuccessful in mathematics expressed a desire to tear up his text. The teacher gave him a discarded book and let him destroy it.
4. A teacher in business mathematics permitted pupils to check the "key" when they needed that help. The only restriction was that they make some effort to solve the problem before looking at the answer.

In contrast we might refer to the history teacher who, on the first day of class, distributed a two-page list of rules for pupil conduct.

This article may seem to be a short course in human relations. The writer believes that teaching is basically a problem in human relations. It is suggested that the teacher occasionally take stock of his activities. He could select an incident or two from each day's experiences and examine them critically to see if he is helping pupils to gain self-enhancement and to meet their developmental tasks.

INTERPRETING THE SELECTIONS

Peck and Havighurst article

1. Increasingly schools are sharing responsibility for character development with the home and other community agencies. How would you suggest that school organization and practice be altered to make an effective impact on character development?

2. What are the differences in underlying motivation between "irrational-conscientious" and "rational-altruistic" persons?

3. Assume that five teen-agers, each representing one of the five character types, have been assigned to a class committee to present a panel discussion on the state legislature. How would each of them react to working in the group? To whom would leadership of the committee gravitate? Why?

4. Are our schools oriented to rate students "down" for the kind of frank independence Ralph displays? What are teacher attitudes toward the "Ralphs" who do "not hesitate to express negative as well as positive opinions" of others?

5. What background factors (home, school experiences, and others) might explain how Ralph developed into a rational-altruistic person?

Jackson and Getzels article

1. What conclusions can be drawn from this article?

2. What signs would indicate to a teacher a student whose "dissatisfaction with school appears to be a part of a larger picture of psychological discontent"? How could such a student be helped?

3. How do the authors define "psychological discontent" in this study?

4. What cautions are given to the classroom teacher with regard to interpreting and applying this study?

Redl article

1. What would you say, briefly, is the thesis of this article?

2. Observe children for examples of defiance; summarize each in a paragraph, indicating which kind of defiance is involved.

3. How could polite withdrawal from a craft activity be a more serious symptom than bullying and destructiveness?

4. Give an example of an act of "defiance" which may actually be an act of conformity.

Jensen article

1. Do you think the six "propositions" are (a) accurate and (b) adequate to explain the bases of adolescent motivation? Would you add others?

2. What other implications for the teacher can you suggest, on the basis of Jensen's propositions?

3. Give further examples, verbally or through skits, of teacher behavior in line with these implications or inconsistent with them.

7 LEARNING EXPERIENCES

Teaching Machines

B. F. Skinner[1]

No professional educator can afford ignorance concerning the new media—television, teaching machines, and the like. Educators are continually searching for keys to more valid learning experiences and aids to more effective teaching. Teaching machines are an exciting and controversial innovation in the world of education. Do teaching machines induce pupils to learn more easily and more enthusiastically? What kinds of learning do they foster? The article below presents some of the challenges and promises of this new teaching aid.

Scarcely any area of human activity has been more resistant to scientific analysis and technological change than education. Although our homes, offices, factories and means of transportation have been transformed within a generation, the typical classroom and techniques of teaching have hardly changed in a century. True, the birch rod is gone, desks are no longer screwed to the floor, blackboards are green, textbooks are colorful and there is often a television set, motion-picture projector or tape recorder somewhere in the room. But the methods whereby a teacher is supposed to impart knowledge to a roomful of pupils have changed scarcely at all. Indeed, a number of critics are persuaded that there has been an actual decline in teaching effectiveness within the past 30 or 40 years. Be that as it may, too many young people pass through our school systems without achieving a satisfactory command of reading, spelling, arithmetic and the use of the English language —to list only the most basic subjects. Too many pupils become discouraged, develop "blocks" and leave school as soon as the law permits. Many others, aware of their marginal competence, hang on bravely; motivated by family and social pressure, they manage to finish four years of college after surviving what can only be described as a punishing ordeal. A few students—all too few—surmount the inadequacies of our traditional teaching methods and get a certain amount of pleasure and satisfaction from the educational process.

Could things be otherwise? There is no dearth of suggestions for improving education. We must pay salaries that will attract and hold good teachers. We should treat students as individuals and group them according to ability. We must bring textbooks and other materials up to date, particularly in science and mathematics. And so on. It is curious that such suggestions rarely deal with the actual processes of teaching or learning. They make no attempt to analyze what is happening when a student listens to a lecture, reads a book, writes a paper or solves a problem. They do not tell us how to make these activities more productive. . . .

---

[1] from Scientific American, Vol. 205, No. 5, Nov. 1961, pp. 91-102. Reprinted by permission of the publisher. Copyright © 1961 by Scientific American, Inc. All rights reserved.

Fortunately recent advances in the experimental analysis of behavior suggest that for the first time we can develop a true technology of education. This technology, following the practice of the experimental laboratory, will use instrumentation to equip students with large repertories of verbal and nonverbal behavior. Even more important, the instrumentation will be able to nurture enthusiasm for continued study. The instruments that will help our schools to accomplish all this are called teaching machines.

Simple models of such machines have been widely advertised and even sold door to door. They do not give a very good picture of what the teaching machine movement is all about, and there is a real danger that teaching machines will be overpromoted and misused before their real merits and limitations have been properly appraised. Like a high-fidelity phonograph, a teaching machine is no better than the material fed into it. Devising a program for a teaching machine is still very much of an art, but it is an art that can be improved by the scientific analysis of millions of hours of recorded data: responses made by animals confronted with stimuli presented to them by laboratory teaching machines and responses made by human operators on machines specially designed for educational purposes.

Like all useful machines, the teaching machines developed slowly from the need to do a job more effectively than it could be done otherwise. They have evoked all the reactions, including the hostile ones, that we have learned to expect from a new kind of machine. Some people see the machines as a threat to the teacher, which they are not. Some fancy that they will make education a cold, mechanical process. Others fear that they will turn students into regimented and mindless robots. Such fears are groundless. The purpose of a teaching machine can be simply stated: to teach rapidly, thoroughly and expeditiously a large part of what we now teach slowly, incompletely and with waste effort on the part of both student and teacher. Some of the machines also hold the promise of teaching behavior of a kind and subtlety that until now has seemed beyond the reach of explicit teaching methods. . . .

The possibility [of teaching with machines] was recognized as long ago as the 1920's by Sidney L. Pressey, a psychologist at Ohio State University. He designed several machines that automatically tested a student by presenting him with a series of questions keyed to multiple-choice answers. If the student selected the right answer by pressing a button, the machine moved on to the next question. If he was wrong, the error was tallied and he had to continue to choose until he had hit the right answer. Pressey recognized that a device that informed a student immediately of his success, or lack of it, would do more than test the student—it would teach him. Pressey also saw that machine instruction would allow each student to proceed at his own pace.

The "industrial revolution in education" that Pressey envisioned stubbornly refused to come about. Receiving no encouragement from educators, Pressey wrote in 1932 that he was "regretfully dropping further work on these problems." Cultural inertia aside, Pressey's machines had limitations that probably contributed to their failure. They were mainly testing devices to be used after some amount of learning had already taken place elsewhere. They did not use the principles of programing that later emerged from the study of operant reinforcement.

A useful teaching machine will have several important features. Except in some kinds of stimulus learning, the student should compose his response, rather than select it from a set of alternatives, as he would in a multiple-choice scheme. One reason for this is that we want him to recall rather than merely recognize—to make a response as well as see that it is right. An equally important reason is that effective multiple-choice material must contain plausible wrong answers, which are out of place in the delicate process of shaping behavior because they strengthen unwanted responses. (Our ability to remember wrong facts—because we recall having read them somewhere—is notorious. Every wrong answer on a multiple-choice test increases the probability that a student will someday dredge out of his imperfect memory the wrong answer instead of the right one.)

An effective program of instruction also imposes a requirement on a machine not satisfied by those of Pressey. The student must pass through a carefully arranged sequence of steps, often of considerable length. The machine, therefore, must have a high capacity and must be designed so that the student has to take each step and take it in the prescribed order.

For the past three years James G. Holland and I have used a machine that meets these requirements to teach part of a course in human behavior to undergraduates at Radcliffe College and Harvard. Our self-instruction room contains 20 machines and a supply of programs. The students use the room at their convenience as they would a library. During the one-semester course each student spends an average of 15 hours at one of the machines, advancing through the equivalent of a 200-page textbook.

The current model of the machine we use has two windows, one for presenting the programmed text, the other for accepting the student's response. . . . The program, printed on a fan-folded sheet of paper, contains frames for 10 to 15 minutes of instruction. In each frame one or more words are missing. The student writes his response on a continuous strip of paper that moves in phase with the frames of text. By operating a lever he covers each response with a transparent shield (he cannot then change it) and uncovers the correct response. When he is wrong, he punches a hole alongside his written response. This punch makes a mark on the back of the program to report to the program writer that there may be something wrong with the item. The punch also operates a counter that gives the student at the end of the set a score that can be compared with a par score to provide additional reinforcement for successful behavior.

This particular machine is designed for a two-stage response, which should make it possible to abbreviate programs considerably. Each item can be a little harder than the items in a single-response set. The student writes his response and then uncovers not a correct response but additional information. This may tell him that his response is wrong without telling him what the right response is, in which case he has a second chance. Or it may actually give him further information, thereby maximizing the probability that he will be right on a second try. In our present single-response material students are right about 95 per cent of the time. This percentage could be maintained with more difficult material by the use of the two-stage system. Whether we should try to design material that will be error-free, . . . or whether there is an optimal percentage of error will have to be decided by experimentation.

Although it is less convenient to go to a self-study room than to pick up a textbook in one's own room, most students feel that machine study has compensating advantages. They work for an hour or so with little effort, and they report that they learn more in less time and with less effort than in conventional ways. An important advantage is that the student always knows where he stands without waiting for a test or a final examination. (The students are not examined on the material but, in our particular course, are responsible for studying a textbook that overlaps it.)

Obviously the machine itself does not teach. It simply brings the student into contact with the person who composed the material it presents. It is a labor-saving device because it can bring one programer into contact with an indefinite number of students. This may suggest mass production, but the effect on each student is surprisingly like that of a private tutor. The comparison holds in several respects. There is a constant exchange between program and student. Unlike lectures, textbooks and the usual audio-visual aids, the machine does not simply present something to be learned; it induces sustained activity. The student is always alert and busy. Like a good tutor, the machine insists that a given point be thoroughly understood, either frame by frame or set by set, before the student moves on. Lectures, textbooks and their mechanized equivalents, on the other hand, proceed without making sure that the student understands, and they easily leave him behind. Like a tutor, the machine presents just that material for which the student is ready. It asks him to take only that step which he is at the moment best equipped and most likely to take. Like a tutor, the machine helps the student to come up with the right answer. It does this in part through the orderly construction of the program and in part with techniques of hinting, prompting, suggesting and so on, derived from an analysis of verbal behavior. Finally, the machine, like the private tutor, reinforces the student for every correct response, using this immediate feedback not only to shape his behavior most efficiently, but also to maintain it in strength in a manner that the layman would describe as "holding the student's interest."

THE REINFORCEMENT OF STUDENTS

Machines such as those we use at Harvard could be programed to teach, in whole or in part, all the subjects taught in elementary and high school and many taught in college. Since it is difficult to write teaching machine programs, bad programs undoubtedly will be written and marketed, but if the market place has its usual effect, we can look forward to the emergence of highly efficient programs in the not too distant future.

People who are unfamiliar with achievements in the field of operant behavior are often puzzled by the effectiveness of a good program. Why do students continue to work more efficiently with such material than with ordinary textbooks, classroom discussions and lectures? The answer goes to the heart of human motivation. Why, indeed, does a student study at all?

Until fairly recently his behavior was mainly aversive; that is to say, he studied to avoid the consequences of not studying. Although many efforts have been made to change that basic pattern, they have not been conspicuously successful. The proper use of positive reinforcement emerging from the experimental analysis of operant behavior makes possible a general improvement in reinforcing conditions. It is not enough simply to show the student the ultimate advantages of an education—the ways of life that are open to educated men. The student himself may cite these to explain why he wants an education, but long deferred incentives provide only feeble motivation for short-term action, as many a student can testify. No matter how much he may *want* to become a doctor or a scientist, he cannot force himself to read and remember the page of text in front of him at the moment. All notions of ultimate utility suffer from the same shortcoming: they do not specify effective contingencies of reinforcement.

The gap between behavior and a distant goal is sometimes bridged by a series of "conditioned reinforcers." . . .

The marks, report cards and diplomas of education serve as conditioned reinforcers designed to bring eventual consequences somewhat closer to the behavior reinforced. If the marks and cards are "good," they call forth approval from parents, teachers and friends and signify competitive superiority, but they are effective mainly because they signalize progress through the system, leading to some ultimate advantage or reward—if only freedom from further education. Educators often attempt to strengthen the reinforcing value of high marks by making students competitive, but if our concern is for the whole student population, we must recognize that when we use competitive success as a reinforcer someone has to suffer competitive failure.

The study of operant conditioning has shown that we can use positive reinforcement in education without discovering or inventing new reinforcements—we need only to make better use of those we have. Human behavior is remarkably influenced by small results. Describing something with the right word is often reinforcing. Other simple reinforcers are to be found in the clarification of a puzzlement or simply in moving forward after completing one stage of activity.

Everyone knows that children will spend hours playing with mechanical toys, paints, scissors and paper, noise-makers, puzzles—in short, with almost anything that feeds back significant changes in the environment and is reasonably free of aversive properties. The sheer manipulation and control of nature is itself reinforcing. This effect is not conspicuous in most of our schools because it is masked by the emotional responses generated by aversive control.

We might say that the human organism is reinforced by any simple gain in competence. When we guarantee a consistent gain by breaking the material to be learned into small steps, we raise the frequency of reinforcement to a maximum and reduce aversive consequences to a minimum. Although these requirements are not excessive, they are probably incompatible with the current realities of the classroom and suggest a need for instrumentation.

Let us take as an example the problem of teaching spelling in the elementary grades. Suppose we want to teach a child to spell the word "manufacture." A minimum program might require six frames of space, presented in sequence in the window of a teaching machine. The child would be required to make a response to each frame. The word to be learned appears in boldface in Frame 1, with an example and a simple definition. The pupil's first task is to copy it. When he has done so correctly, Frame 2 appears, which says: "Part of the word is like part of the word 'factory.' Both parts come from an old word meaning 'make' or 'build.' M A N U – – – – U R E ." The pupil writes down the missing letters and proceeds to Frame 3, which, in similar fashion, relates the first part of the word to *manual* and to *hand* and requires the pupil to write down the missing letters in – – – – F A C T U R E. Frames 4 and 5 make the point that the letters *A* and *U* each occur twice in the word. And Frame 6 says: "Chair factories – – – – – – – – – – – chairs."

Such programs obviously run to considerable length. At five or six frames a word, four grades of spelling may require 20,000 to 25,000 frames, and four grades of arithmetic as many again. If these figures seem large, it is because we are thinking of the traditional contact between teacher and pupil. A teacher clearly cannot supervise 10,000 to 15,000 responses made by each pupil each year. But the pupil's time is not so limited. In any case, surprisingly little time is needed. Fifteen minutes a day on a machine should suffice for each of these programs. It is probably because traditional methods are so inefficient that we have been led to suppose that education requires such a prodigious part of a young person's day.

Granted the machines could "teach" straightforward subjects like spelling and arithmetic, how would they be used to teach a more fundamental and difficult skill such as reading? Here it helps to recognize that no one can teach something called "an ability to read." Rather, we may teach the behavior from which we infer such an ability.

Knowing how to read means exhibiting a behavioral repertory of great complexity. A pupil can find a letter or word in a list on demand; he reads aloud; he identifies objects described in a text; he behaves appropriately in described situations and so on. He does none of this before learning to read and all of it afterward. To bring about such a change is an extensive assignment.

It is true that all parts of the repertory are not independent. A student may acquire some kinds of response more readily as a result of having acquired others. But ultimately all parts of the repertory tend to be filled in, not because the student is rounding out an ability to read but because all parts are in their several ways useful. They all continue to be reinforced by the world at large after the explicit teaching of reading has ceased.

Viewed in this way, reading can also be taught most effectively with the aid of machines. A pupil can be taught to distinguish among letters and groups of letters simply as visual patterns. He can be taught to identify arbitrary correspondences, for example, between capital and lower-case letters, or between printed and handwritten letters. With the addition of earphones and a tape recorder, the machine will set up correspondences between letters and sounds, between printed words and sounds, and between words, sounds and pictured objects. Traditional ways of teaching reading establish all these repertories, but they do so indirectly and with no serious provision for seeing that each child has mastered every small step in a complicated chain.

Different subjects may require different techniques of machine presentation. For example, to teach subjects such as geography, biology or anatomy, in which names must be related to physical shapes or objects, one can use a "vanishing" technique. In teaching a map the machine asks the student to describe spatial relations among cities, countries, rivers and so on, as shown on a fully labeled map. He is then asked to do the same with a map in which the names have been partially "vanished"—that is, removed in whole or in part. Eventually he is asked to report the same relations with no map at all. If the material has been well programed, he should be able to do so with few, if any, errors.

The reader can easily demonstrate the effectiveness of the vanishing technique by using it to teach a child a short poem. Write a poem of 10 to 14 lines on a blackboard in clear block letters. Have the subject read it aloud without making any effort to memorize it. Now erase a few unimportant letters on each line. Again ask the subject to read the poem. Repeat the process, each time erasing a few more letters and then whole words and phrases, until the poem has vanished. Toward the end even the faint clues of erased letters will be useful, but finally even they should be removed. At each reading the subject makes no effort to memorize, though he may have to make some effort to recall. For a dozen lines of average difficulty, four or five readings should suffice to eliminate the text altogether. The poem can still be "read." Precisely the same technique can be used in a teaching machine. As letters and words vanish from the presentation window of the machine, the student writes them down, with no difficulty, in the response window.

Designing good programs for history, science, English usage and other subjects will not be easy. Whereas a confusing or elliptical passage in a textbook is forgivable because it can be clarified by a teacher, machine material must be self-contained and wholly adequate. There are other reasons why textbooks, lecture outlines and film strips are of little help in preparing a machine program. These devices are usually not logical or developmental arrangements of material but stratagems that the authors have found successful under existing classroom conditions. The examples the authors use are more often chosen to hold the student's interest than to clarify terms and principles.

Difficult as programing is, it has its compensations. It is a salutary thing to try to guarantee a correct response at every step in the presentation of a subject. The programer will find that he has been accustomed to leaving much to the student, omitting essential steps and neglecting relevant points. The responses made to his program may reveal surprising ambiguities. Unless he is extremely able, he may find that he still has something to learn about his subject. He will almost certainly find that he needs to learn a great deal more about the behavioral changes he is trying to induce in the student. His goal must be to keep refining his program until the point is reached at which the answers of the average child will almost always be right.

The traditional teacher may find this prospect alarming. Is it sound educational practice to minimize failure and maximize success? There is no evidence that what is easily learned is easily forgotten. If this should prove to be so, retention may be guaranteed by providing material for an equally painless review.

The standard defense of "hard" material is that we want to teach more than subject matter. The student is to be challenged and taught to "think." It is true that those who learn in spite of a confusing presentation of a subject are better students, but are they better because they have surmounted difficulties or do they surmount them because they are better?

If we want to teach students to think, a more sensible procedure would be to analyze the behavior called "thinking" and produce it according to specification. A program specifically concerned with such behavior could be composed of material already available in logic, mathematics, scientific method and psychology.

TEACHING SKILLS

Before we concern ourselves with trying to teach anything so poorly defined as thinking, there is much else that could be done to increase the behavioral repertories of children, even those who are younger than school age. Consider, for example, the temporal patterning of behavior called rhythm. Behavior is often effective only if properly timed. Individual differences in timing skill (often thought to be almost entirely innate) affect the choice of career and of artistic interests, as well as participation in sports. Presumably a "sense of rhythm" is worth teaching, yet nothing is done at present to arrange the necessary contingencies of reinforcement. The skilled typist, tennis player, lathe operator or musician is, of course, subject to non-educational reinforcing mechanisms that generate subtle timing, but many people never reach the point at which these natural contingencies take over.

We have been experimenting with a comparatively simple device that supplies the necessary contingencies. . . . The device produces a rhythmic pattern that the student reproduces by tapping a key. He may tap in unison with the device or echo it during intervals provided for his responses. The machine scores a tap as being correct by flashing a light and a complete correct sequence by ringing a bell. At first the student is allowed a wide margin of error. He can be early or late with each tap, but these specifications are gradually sharpened until the student's performance reaches a satisfactory level of precision. The programing techniques here are exactly parallel to those used in animal research.

Another kind of teaching machine presents a variety of shapes or patterns from which the student is to select a pattern related in some way to a sample displayed. This is a multiple-choice procedure, but it is justified in this case because what is learned is a process of selection from an array. The objective is to teach children to be more sensitive to the visual properties of their environment.

The same kind of device can be programed to teach quite complex behavior such as inductive reasoning. For example, the student can be taught to continue a series of patterns following an orderly sequence. . . .

. . . The environment of the young child contains poor contingencies to shape and sustain rhythmic and musical abilities, pattern discrimination and so on. Until we have remedied this environmental defect we are in no position to assign differences to genetic limitations. It is quite possible that wide differences in abilities will still survive, including the difference now measured crudely as one of intelligence, but that the whole population can be moved upward in competence and achievement.

THE NEW ROLE OF THE TEACHER

To arrange all this we must analyze human behavior afresh and design a whole series of educational practices appropriate to the task. Many different types of teaching machines will undoubtedly be needed, and they will raise many practical problems. They will not eliminate the need for teachers or reduce their status. On the contrary, they will enable the teacher to save time and labor while taking on a vastly greater assignment. Even the machines available today free the teacher for more creative classroom functions than that of drillmaster. In assigning certain mechanizable functions to machines, the teacher will emerge in his proper role as an indispensable human being.

Administrative problems will also arise. One of the great sources of inefficiency in modern education is due to our effort to teach a group of students at the same rate. We recognize that this is unfair to the student who is able to move faster, but we have no idea how much damage may be suffered by those who move slowly. There is no evidence that a slow student is necessarily unintelligent, but in our system he quickly falls behind and becomes less and less able to move at the speed adopted by the teacher. With properly designed machines and programs, a slow student free to move at his own normal rate of work may rise to undreamed-of levels of competence.

Grades will have a new meaning, signifying mainly the amount of material the student has covered. Even the architecture of school buildings may have to be changed, and it may no longer be necessary to continue the centralization of school systems. All this will undoubtedly cost money, but it will be money spent in the development of a country's greatest resource, the productivity, happiness and creative development of its citizens.

More Opportunity for Learning—or Less?

Alexander Frazier[2]

A number of innovations in educational practice are promoted on grounds that they individualize learning experiences. Claims are made for increased efficiency, broader scope, greater freedom, and better provision for individual differences. The author of the following article cautions us that "individualizing" means different things to different people. How can we rearrange our educational procedures so that individual opportunity for learning is genuinely increased? What part will ability grouping play? Individual study? Programed learning? It may be possible that the outcome of all the current excitement will be less opportunity for learning rather than more.

A good many innovations today are being promoted on the grounds that they make better provisions for individualized instruction. Such claims cause us to listen. Greater freedom for the learner is something to which we are deeply committed; it is something about which we may well need to be, and indeed are, newly concerned.

Any such proposal, then, should receive a fair hearing. It should also be studied closely for what is meant by individualized instruction. To do this, we need to be sure of what we mean by that term. Otherwise, we may reject an idea of merit, perhaps out of distaste for its present context. Or we may waste time on the further exploration of long since abandoned byways.

Although we may try to sharpen our definition of individualized instruction in various ways, basically we must relate any proposal toward that end to our conception of what a good program looks like. Our understanding of the many dimensions of human variability, our insights into the variety of purposes for and paths to learning, our appreciation of the value of multiple resources for learning—all are so interwoven in our idea of a good program that we may find it hard to define individualized instruction apart from this total context.

Perhaps we can agree that characteristic of any provision seriously proposed as promising greater success in personalizing learning should be its orientation toward opening up the fullest possible range and richness of learning for all individuals. Among our current curriculum concerns, probably the one of greatest urgency is just this—that we may have imposed limitations or boundaries on some or on many or perhaps on most learners. Standardized content, closely graded textual materials, group-based measures of achievement, and some of our routine grouping procedures are being reexamined in light of new convictions that we can safely make more room for everybody's learning.

INDIVIDUALIZING LEARNING

Against this background of concern, we respond immediately to the promise of several current proposals for greater individualization of instruction. For example, the movement to individualize the teaching of reading properly excites us. The approach uses what we know about pace. It redeems interest and purpose as central to reading. It also promises to emancipate both learner and teacher from too great dependence on too few materials; it centers on the full use of resources that have often been perceived as "outside" or supplementary to instruction. All this we accept as moving in the direction of making more room for learning.

---

[2] from Educational Leadership, Vol. 18, No. 5, Feb. 1961, pp. 266-270. Reprinted by permission of author and publisher.

Of similar promise are the attempts now being made to transcend the limitations we recognize as coming from too closely graded instruction, as in mathematics. Confining children to the mastery of a handful of number facts parceled out in terms of a supposed logic of less to more difficult is being challenged on several counts. Helping children learn to think in terms of relationships and interrelationships is tied to a new concern for learning by wholes. Here, again, the conception of learning really promises to make more room for children to learn whatever they can that will help make increasing sense out of their world.

The attention now being given to new approaches to independent study, particularly at the secondary level, may also seem worth pursuing. We need not accept the total context of some of these ventures. Independent study does not have to be carried on in dark corners nor paid for by mass teaching. We have long valued the provision of opportunities for learners to go it on their own, to learn more than everybody has to know, to find out much that only they want or need to or perhaps can learn. The new emphasis on independent study may cause us to think through again better ways of making sure that personal learning is both valued and supported.

Still another recent development of promise is the seminar. At its best, the seminar provides a setting in which advanced students are freed to investigate problems and topics in terms of individual interests or purposes, with the emphasis on research and experimentation. The general approach, while found most widely at the eleventh and twelfth grades, also characterizes some special provisions for gifted children, usually those offered in late afternoon, Saturday, or summer classes. Hopefully, our assessment of the seminar may enliven our efforts to incorporate more of what we believe about the role of interest, of purpose, and of personal discovery in our program at all levels for all learners.

These innovations, then, may well seem to us to hold promise of promoting greater individualization of instruction. Of course, there are still questions about them we may wish to ask. We need to know that emancipation from the textbook in learning to read is accompanied by continued attention to skill development. We are concerned about what happens to children's immediate needs and experiences in a kind of learning that newly stresses generalizations and structure. We would like to see the independent study movement clarify its thinking on the function of the group in learning, and the seminar idea rescued from its tie-in with abler learners only.

In general, however, these developments seem to give real promise of lifting the limitations that may sometimes close in on the learner as an individual. Through the wider use of resources, a new vision of how to escape from the ceilings in graded learning, a new emphasis on depth studies, and a reemphasis on learning through experimentation, research and personal discovery, we sense in these proposals the desire to perfect a conception of learning and teaching that promises more opportunity for everybody.

LESS OPPORTUNITY FOR LEARNING?

But there is currently another group of proposals for individualizing instruction about which we may be less hopeful. In fact, if we are to clarify what we mean when we talk about better provisions for personal learning, we are going to need to think through very carefully the differences between this second set and those already discussed. As we do, we may find the basic differences come in the narrowness of the program conceived of by these proposals and their reduction of individual variability to one dimension only: rate of learning.

Let us look at some of these proposals briefly. One of them is the team learning idea. In this practice, as most widely described, learners are put together in pairs or trios with the purpose of helping each other move more successfully through the given material to be learned.

We may see in this kind of learning situation something to admire, much, indeed, that we have long sought to provide for in good programs. We know children have a great deal to learn from each other and much to learn that can only be learned together. What is questionable about this method is the conception of what is to be learned. The program envisioned in team learning seems to be a preplanned, prescribed sequence of learnings through which all learners must proceed. Pairing and trio-ing the learners is a device for helping speed them through.

Another rate-centered approach to individualized instruction is found in a variety of attempts to solve the problem of personal learning through regrouping. The Joplin Plan, some variants of the ungraded primary, and some of the team teaching experiments belong to this camp. Again, the program is conceived of as fixed, and children are reshuffled to put them in touch with that segment of it which marks the place in time which they have reached in their contact with the program.

A third new attempt to speed learners through a narrowed sequence of learnings is found in the varied ways being developed to "program" what is to be learned more thoroughly than we have ever been able to, or perhaps cared to, in the past. Whether tied to machines of some kind or not, these efforts all presuppose an identical program for every learner. Again, the only difference among individuals that really matters is how quickly they can move through this program.

What disturbs us in these ventures, then, should rightly disturb us. At what cost do they propose to provide more adequately for individualized instruction? The program is reduced; the individual is diminished.

CONTRASTS IN APPROACHES

The difference between such narrowed-down, rate-centered proposals and those that most of us see as really promising to enlarge learning for the individual can be highlighted by spelling out how they vary in a few of the usual ways of looking at curriculum and teaching.

Content

A rate-centered approach conceives of content as preselected and preorganized, the same for all learners. Ideally, it is presentable in highly graded fashion so that everybody can move through it step by step. Emphasis is on information—facts, definitions, fixed relationships, single and "right" answers.

An approach that emphasizes opportunities for the learner conceives of content as created by him. While some learnings will be created in common, many will be unique to the individual. All of what he learns becomes his own, in any context of understanding, but some things only he will be able to OR need to OR want to learn.

Method

In rate-centered learning, with an emphasis on acceptance and retention of content specified in textual material, method is concerned with facilitating the movement through what is to be learned as expeditiously as possible. Opportunities for enlarging on basic understandings tend to be provided terminally and thus go chiefly to the faster learners.

Emphasis on created content involves a method through which learners help in planning experiences and selecting materials for learning. Provision for individual needs gets incorporated in the program from the beginning, being perceived as essential to effective learning for everybody.

Resources

Obviously, under an approach that emphasizes rate, the resources tend to be limited to the textual material.

On the other hand, an emphasis on room for learning will be accompanied by a desire to make use of the full range of resources for learning—textbooks and many other kinds of printed materials, films, recordings, television as appropriate, human resources, study trips, and all the rest.

In brief, under a rate-centered approach to learning, content is seen as fixed, the teacher is seen mainly as an expediter, and resources dwindle to a single text. In the kind of program most of us are supporting, content is seen as created by learners to satisfy many needs and interests (and to stimulate new ones), the teacher as filling many roles, and the resources for learning as virtually boundless.

LINES OF ACTION

The key question, then, is whether proposed innovations for more effective individualization of instruction actually do provide more opportunity for learning. In order to make our judgments on this score more discriminating, as we have pointed out, we have to become increasingly clear about our own conception of learning and teaching. As we do, there are several lines of action open to us for making our clarification count in actual practice.

One is to test proposed innovations on our own terms. So often we see the innovation embedded in its original context and feel that since we cannot accept the context, we would prefer not to deal with the essential idea, medium or technique. Yet we cannot expect the lay technicians and promoters from whom some of these new notions come to bring to their testing much scope of educational insight. Putting new techniques and devices to the ultimate test is our business and must be done within a framework as broad as our best thinking. Programmed learning will no doubt have its uses when we can separate it from some of its present zealous proponents as will educational television and a host of other newer developments.

Another line of action is to become more articulately critical among ourselves about the possibilities and the limitations of the new. Most educational literature is nonevaluative. We have many exhortations to do this or that. We have many descriptions of what is going on. We have a great many reports that claim success, usually in a mood of self-congratulation supported with the results of simple attempts at proof. Yet we seldom have accounts of efforts to face up to the issues involved, to sharpen differences in conceptions of learning, to challenge the breadth of concern for human development. Perhaps part of this hesitation comes from the fact that most of us work for public schools and our first audience is the local constituency which has no ear for doubts and misgivings or reports of failure. We may hesitate, too, to attack colleagues placed like ourselves on public view.

Yet whenever two or three of us are together these days, we can privately assay many dubious proposals with a high degree of discrimination. We soon come to very close agreements about the need to watch with a sharp eye some of the widely publicized innovations. Some of us, if the doors are closed, are even willing to speak very frankly of the doubts we may have about some practices that we may have been "promoted into" by lay or semiprofessional zealots. Unless we do come out of the back room with our best thinking, we are certainly behaving at less than the professional level. In our educational literature, we need more than carbon copies of [newspaper] publicity releases. . . .

Finally, we ought ourselves to be spending more effort in becoming increasingly inventive in finding better ways to realize our own conception of what it takes to provide the best possible program for boys and girls. Leadership has gone to lay groups, semiprofessional agencies, and foundations. This results in part because we have not ourselves moved out as boldly as we could to imagine and test the conditions that would enable us to find more opportunity for learning rather than less, to bring to every child more of the richness and range of learning, to help every individual to become all that he could become in ways personally satisfying to him and socially enriching to us all.

Self-Selection as a Principle of Curriculum and Method

Willard C. Olson[3]

Here is another approach to providing appropriate learning experiences for children of widely varying abilities and backgrounds. The author of the following reading urges the practicality of self-selection as an answer to the problem of individual differences. If permitted to choose, will children seek learning experiences that will meet both personal needs and social requirements? Or, from a cafeteria of educational experiences and materials, will students select only the chocolate cake varieties? This is a challenge to the beliefs most of us hold concerning the power of individual choice in educational experience.

Schools should minister to the needs of the individual and of society. Those who plan programs have goals of citizenship, of family organization, of vocational independence, of health, of the enjoyment of leisure, of skills, and of manners and customs. How are the children to have the appropriate experiences for making progress toward these goals?

In work involving group activities the selection of curriculum experiences comes about by processes of group discussion, cooperation, and evolution. Self-selection is a process by which the child is free to use nurtural opportunities in accordance with capacities, needs, and satisfactions that are self-defined. What is the rational basis of the principle of self-selection and what are the implications for educational practice?

The wisdom of the body

The regularity of developmental sequences and associated behavior is so great, both in prenatal and postnatal life, that many investigators conclude that structure precedes function and that function is but little dependent on learning. An environment exists and is effective only when the possibility of a response also exists in the organism.

Self-regulating activities of the body are designed to preserve water balance, temperature, and chemical equilibrium, and to meet the invasion of disease. The problem of balance is concerned with the psychological as well as the physical environment, and with "learned" as well as "unlearned" behavior. Most proposals for the use of the self-selection principle in education rest on the assumption or demonstration that natural laws are always at work to preserve good conditions for the survival of the individual.

Baby knows best

There was a time when the known scientific principles in early infant care resulted in careful calculations of the infant's quantitative and qualitative requirements for food. Feeding and care by the clock was assumed to be a virtue. More complete evidence is now causing many pediatricians to swing to a philosophy and practice of naturalism. With *self-demand* schedules a child is nursed whenever he is hungry, and the quantity consumed is regulated by appetite and not by arithmetic. Marked regularity gradually occurs in the time for feeding a given infant with some regularity in amount. A famous experiment with older children demonstrated that children may be trusted to balance their own diets when fed from a tray which contains an adequate variety of foods.

---

[3] from Univ. of Mich. School of Education Bulletin, Jan. 1945, 16:52-55.

Psychological considerations are again enthroning the ancient practices of mothering once discarded in terms of insufficient knowledge and over-generalization of the known.

Spoiled babies? No, on the contrary, thriving children who do not develop the disturbing aggressions following upon the frustrations of biological and psychological urges that children receive under standard imposed regimens.

To sleep or not to sleep

"How much should my child sleep?" asks the mother of the three-year-old. "Twelve hours in twenty-four," replies the person who believes in averages. "Let him sleep as long as he likes," would be the reply of the person who believes in self-selection.

Nursery school programs commonly include a block of time for an afternoon nap for the children. Children vary in the length of time that they sleep during the day and increasingly large percentages either give up the nap or sleep intermittently in the successive age periods of 2, 3, 4, and 5. One could thus argue that it is a sign of maturity to give up the nap and that those who have least need will give it up sooner. . . .

When and what to read

The self-selection principle as applied to first reading implies that a teacher will provide help and a suitable environment, but the child himself will be the judge of whether or not and at what time he should be consuming reading materials. Observant teachers have long been accustomed to looking for clues as the child, when ready, starts his *seeking* behavior. The nature of this behavior has not been too well documented, but it is known that it begins early in mature children and is reflected in the time they spend with picture books, in the questions they ask, and in other evidences of interest. Under the self-selection principle, it is not uncommon to find a child reading before anyone is aware that he has had "instruction." One child who was reading well and entertaining others with her reading in the kindergarten was asked, "How did you learn to read?" She said, "Mother taught me 'and' and 'the.' When I came to school I learned Mary and Ruth. The rest I just figured out for myself." Such examples occur from time to time in a kindergarten and frequently in the first grade among children who are very mature. The process seems to occur with equal ease among the others if the teacher and the parents are willing to *relax, wait, and let nature take its course.* At their worst, remedial reading techniques attempt to produce an abnormality in the child's growth. At their best, remedial techniques are based on the "pacing" principle, insure an adequate supply of nurture, and involve the education of all concerned in the acceptance of the normality of variation from averages.

In a classroom well equipped with library books and standard readers, the mature child consumes many and more difficult books and makes the greatest gain in reading, the average child consumes fewer and simpler books and makes less of a gain, and the immature child consumes the least and the simplest and makes the smallest gain.

Self-selection without prescription results in a variety of curriculum experiences. The children choose books concerned with adventure, war, science, biography, history, geography, and poetry. Happily most educators would agree that, if the zest which unfrustrated children have for reading could only be maintained in the later years and adult life, any temporary price that is paid in specific information and skill would be worth while. The probabilities are, from observation and test results, that no present price is being paid.

Self-selection in arithmetic and spelling

The writer observed a teacher who was using the self-selection principle with conventional teaching materials in spelling and arithmetic as a supplement to individual creative and group cooperative activities. When workbooks in spelling were provided at five grade levels in a combined third and fourth grade, children selected materials ranging from the second to the sixth grade. A child often started with material that was easy, and covered one or several grades during the year, depending on his interest and readiness for the task. The same procedure was followed in arithmetic both with the practice material and with the standard textbook.

Self-selection, creativity, and personality development

When children are allowed to select experiences for themselves in art media, spontaneity, large energy expenditure, and persistence are the rule. So-called "projective" techniques regard child behavior and child created products as externalizations of needs and tensions in children. The trained analyst learns to interpret the materials and behaviors in ways significant for an understanding of personality development, and self-selected production becomes important for a better mental hygiene.

Changing application of the principle with age

The operation of the principle of self-selection seems clearest at early ages before organic need becomes overlaid by social learning and expectancy. One of the perpetual educational problems at the adolescent period is how to meet personal needs and social requirements in a harmonious manner. A curriculum based on the personal and social needs of adolescence would undoubtedly be a revolution in secondary education.

At the secondary, college, and graduate levels, numerous attempts have been made to replan the curriculum in terms of general and professional education. Even the most traditional of the plans still permit each individual a wide latitude, within his abilities, to choose, prepare for, and pursue various disciplines and vocations. There are few counselors who feel that they are wise enough to select these goals for an individual. . . .

Teachers' Educational Beliefs Versus Their Classroom Practices

W. A. Oliver[4]

So much has been spoken and written about modern methods in education that we might expect to find a high proportion of teachers incorporating the newer thinking into their teaching. Do the classroom-learning experiences which teachers arrange or supervise reflect the educational aims and beliefs expressed by these teachers? The following article is the report of a study which discusses the problem of "practice lag" and the difference between verbal acceptance of new ideas and actual application of them in teaching. Effective programs for preparing teachers must influence behavior as well as attitudes.

This article is based upon a study of the problem of education lag, as represented by a study of the stated educational beliefs of one hundred nineteen elementary teachers, as contrasted to their classroom practices. A great deal has been written on the problem of education lag and the fact, that in general, classroom practices of most teachers are not consistent with their stated educational beliefs or with recognized principles of learning. . . .

---

[4] from Journal of Educational Research, Sept. 1953, 47:47-55. Reprinted by permission of author and publisher.

This study was geared to four principles of learning which have gained universal acceptance among educators during the past quarter century. The four principles selected are as follows:

1. Good teaching recognizes and provides for individual differences among children.
2. Human growth and development is a continuous process.
3. Real learning is based upon experiencing.
4. Learning proceeds best when related to the interests and experiences of the learner.

Any review of the educational literature of the last twenty-five years will easily establish the universality of these four principles. They are referred to in book after book dealing with learning and the learning process. John Dewey through his writings and pronouncements did much to promote their acceptance. They have also been reiterated by such recognized authorities as Burton, Cole, Hildreth, Lee, Spears and Witty. These are but a few of the leaders and writers in the field of education, who continually refer to the above principles as basic to an effective program of classroom instruction.

This study was conducted in six elementary schools in a large American city. The schools were typical elementary schools representing a cross section of the community. They were selected on the basis of the willingness of the staffs of each school to participate in such a study. There were one hundred nineteen teachers representing all grade levels from kindergarten through the eighth grade, since the seventh and eighth grades in the city where the study was conducted are a part of the elementary schools. . . .[5]

These statistics indicate that the group studied was a representative cross-section of the elementary teacher population. It involved teachers of all age levels, experience, training, and tenure status.

To determine the extent to which these teachers accepted the concepts embodied in the four principles listed previously, a fifty-item check list of educational beliefs was prepared. The items were taken, for the most part, from two sources—one list having been prepared by Dr. Mort and Dr. Cornell of Teachers College, and one by Dr. Spalding of the University of Illinois.

These statements were aimed at determining the extent to which the teachers involved in the study agreed or disagreed with the concepts embodied in the statements. Their responses would also give a clue to the degree of acceptance or rejection of the four principles underlying the study. The following statements are samples of the type of statement used. The number indicates the placement of the statement in the series.

3. Each child is different from every other child and the school should treat each child as an individual.

4. Success in learning is greatest when learning results from the natural incentives and interests of the child.

14. Textbook learning should give way to increased learning through experience.

26. It is more important for a teacher to have a thorough knowledge of subject matter than to know how children learn.

35. A pupil acquires self-discipline only through freedom to make choices and to profit from them.

50. The curriculum should consist of worthwhile activities on the child's own level.

The teachers indicated their acceptance or rejection of these statements by checking their responses as "agree" or "disagree." Table 1 shows the results of this phase of the study.

These scores show a high degree of acceptance of the stated beliefs on the part of the teachers. This would also indicate a high degree of acceptance of the concepts embodied in the four principles of learning selected as basic to a good educational program. Seventy-five per cent of the teachers agreed with eighty per cent of the statements and only two individuals failed to register agreement with less than half of the items. This speaks well for the writings and teachings of the educational authorities over the past quarter century. The philosophy of modern education has been well accepted, but what of the implementation of it?

---

[5] The median age of these teachers was 42.2; the median number of years taught was 9. Seventy-one of the teachers had the Bachelor or Master's Degree. There were 52 kindergarten-primary teachers, 39 intermediate grade teachers, and 28 seventh- and eighth-grade teachers. Seventy-one were on tenure.

A further analysis of these scores in relation to the factors of age, training, experience, grade level taught and tenure failed to develop any significant relationships. That is, acceptance of these beliefs was not peculiar to any single group within the one hundred nineteen teachers.

Table 1. Scores made by 119 teachers on statements of educational beliefs

Score	Frequency
50	1
49	6
48	10
47	8
46	15
45	7
44	11
43	6
42	8
41	6
40	6
39	9
38	3
37	8
36	2
35	3
34	1
33	3
32	1
31	1
30	2
23	1
Median	43.3
Q-1	38.8
Q-3	46.1

The second phase of the study was concerned with the evaluation of the classroom practices of the one hundred nineteen teachers as reflected in the learning situations in their classrooms. The first task was the development of an evaluative device geared to the four recognized principles of learning stated at the beginning of the study. After considerable research and discussion, and with the assistance of the Department of Research, a suitable device was prepared. The instrument finally agreed upon consisted of four main divisions, each one representative of one of the four principles of learning on which the study was based. Under each of these appeared a number of subheads descriptive of types of educational practices one would expect to find in a classroom implementing the stated principles. There is a partial reproduction of this device on page 160.

A total of fourteen such statements were included in this evaluative device. It can be seen that the attempt was not to rate the teacher, but to determine to what extent the classroom situation reflected the concepts embodied in statements of educational beliefs. The following table shows the results of the evaluation.

A perfect score on evaluation would have been 52. It is interesting to note that seventy-five per cent of the group scores 20.8 points below this level and that the highest score was 44. From these scores it is evident that there is little relationship between the professed educational beliefs of these teachers and their classroom practices. The correlation between the belief scores and the evaluation scores was .31, an extremely low correlation indicating practically no relationship. This is not a condemnation of the classroom teacher, but rather indicates the failure to provide teachers with the basic understandings and techniques necessary to provide the type of learning environment consistent with our accepted principles of learning. The following conclusions are inevitable as a result of this study.

Table 2. Evaluation scores of 119 teachers

Score Interval	Frequency
43–45	3
40–42	3
37–39	7
34–36	11
31–33	10
28–30	29
25–27	29
22–24	17
19–21	6
16–18	3
13–15	1
Median	27.8
Q-1	24.7
Q-3	31.2

1. The problem of educational lag is a serious one in education.
2. Teachers in general have little real understanding of the basic principles of child growth and development.

3. Teachers have not been given the necessary techniques to develop a classroom program based on child needs, interests, and capacities.

4. The actual provision for individual differences in most classrooms is very limited.

5. The learning experiences are, in many cases, still limited to assignment-recitation type of activity.

6. Arithmetic and language are usually taught in formal situations with the textbook being the main source of learning and information.

7. In-Service training programs need to be stepped-up and considerable emphasis be placed on child growth and development, and democratic approaches to learning.

8. Teacher-Training institutions must make some changes in their curricula to insure better understanding of modern methods of instruction, developing out of what is known of the way the human organism develops and acquires new patterns of behavior.

Classroom evaluation report

Please fill out this report as soon after visiting the classroom as possible, by checking in the column which most adequately describes the learning situation.

Teacher Number____________________ Grade Taught____________________
Dates of Observation____

	Very evident	Quite common	Sometimes	Seldom	None
I. INDIVIDUAL DIFFERENCES					
A. Was there evidence of differentiated assignments?					
D. Were any tests used to determine pupil needs?					
II. HUMAN GROWTH AND DEVELOPMENT IS CONTINUOUS					
A. Were subject areas integrated into a series of learning experiences suited to the maturity level of the learners?					
III. REAL LEARNING IS EXPERIENCING					
A. Were any units developed by the pupils with the guidance of the teacher?					
IV. LEARNING PROCEEDS BEST WHEN RELATED TO THE INTEREST AND EXPERIENCES OF THE LEARNER					
A. Was there evidence of using pupil interest and experience in planning and selecting learning activities?					
C. Were Arithmetic and Language taught in a formal situation unrelated to the daily life experiences of the pupils?					

INTERPRETING THE SELECTIONS

Skinner article

1. How would Skinner answer Frazier's comment that teaching machines offer a rate-centered program?

2. The author says that education must become more efficient. What criteria for efficiency would you set up?

3. Outline what you feel are some of the possibilities and limitations of machine teaching for the grade level or area in which you plan to teach.

4. What sound learning principles are employed in the machine programs described in this article?

5. If there is a language laboratory or any other teaching-machine program available, visit it, try out the experience, and check your suppositions against this first-hand "taste."

Frazier article

1. What are the basic differences between the author's first and second groups of proposals for individualizing instruction? Upon what basis does he claim that the first have greater educational merit?

2. If you have had experience with independent study or seminars, to what extent did you experience the values of greater freedom and individualized learning through these programs? Did you feel more responsible for your own learning?

3. Investigate (through reading or a field trip) the program of an ungraded elementary school. What tentative conclusions can you draw about such an arrangement in terms of interest, achievement, and individual growth?

4. Explain what Frazier means in saying that team learning, regrouping, and "programed" learning represent only one dimension of the learning process.

Olson article

1. Have you had any personal experience with the self-selection principle in your school work? If so, does your experience bear out Olson's thesis?

2. What advantages and what dangers do you see in following the principle of self-selection in the classroom?

3. If the self-selection principle were followed, what would be the teacher's function?

4. Do you think self-selection should be either (a) the chief or (b) the only criterion of choice of materials for a given child, assuming all the materials available have previously been chosen by the teacher as sound educational tools? Do you feel the same about self-selection of *content* as about self-selection of level of difficulty? Explain the reasons for your answers. (Good general topic for a debate.)

Oliver article

1. What conclusions can legitimately be drawn from the data of this study?

2. Was the questionnaire given to the teachers a dependable way of determining the teachers' real attitudes? Do their high scores prove that they really agreed with the statements?

3. Does the low correlation between belief scores and evaluation scores prove that the teachers' practices were not in accord with their beliefs?

4. How is it possible for a teacher to use practices at variance with his beliefs?

5. How could you devise a test of beliefs and values on which teachers could not distort their scores by answering the way they thought they should, instead of the way they really felt?

8 GUIDELINES FOR LEARNING

The Functions of Teaching

Jerome S. Bruner[1]

The author of the first article in this chapter steps beyond the mass of data on learning and studies of teaching methods to take a broad, psycho-philosophical perspective on the purposes and functions of teaching. What can a teacher supply that the learner alone cannot which will make learning more efficient and more useful now and in the future? How can a teacher help the learner acquire the skills he will need for coping with new ideas and new problems all his life—both the organized knowledge and the ability to sort and structure new ideas? Dr. Bruner's four "minimum objectives" should give you some food for thought as you think through your own ideas about the functions and aims of teaching.

I should like to beg of you that you grant me the privilege of innocence. It is not my intention of passing in review the various theories that now exist concerning the proper function of teaching, then to weigh and evaluate these in the interest of a synthesis. I do not have the requisite learning for such a venture. Nor is it what really I want to do. My intent, rather, is to examine the nature of the processes involved in communicating knowledge and, in a certain measure, to examine the structure of knowledge as we have come to understand it in the past decade, and in the light of these two considerations, to examine what the unique position of teaching and teachers might be. My warrant for asking this privilege of innocence is not very strong, for though I have taught for fifteen years and been taught still longer, that gives me no more warrant to speak than I would have if the subject were the nature of prose, and I have been speaking prose longer than I have either taught or been taught. The remainder of my warrant rests upon the fact that I have busied myself for more than a decade with the nature of the knowing process—cognition as it is called in the catalogues. But what my efforts have yielded is the firm conviction that while we know a certain amount about learning and about thinking, we know precious little about teaching and its functions. So I shall use this opportunity to examine the shape of the gaps. I hope I fare as well as Lord Russell who long ago gave a lecture at Harvard on the philosophical implications of quantum theory and relativity when these implications were even less well understood than they are today. When his exposition was completed, Alfred North Whitehead, who was chairing the meeting, congratulated Lord Russell by saluting him for not having obscured the great darkness of the subject.

---

[1] from Rhode Island College Journal, Vol. 1, No. 2, Mar. 1960, pp. 35-42, 49. Reprinted by permission of the Editor.

SPARING THE LEARNER THE MORE DANGEROUS CONSEQUENCES OF LEARNING

Let me begin by proposing that the first function of the teacher and teaching is to spare the learner the more dangerous consequences of learning. That is to say, the existence of the teacher makes possible the commission of error without irreversible harm occurring. Let me put it in terms of food gathering behavior and the learning involved therein. A hungry young organism is out gathering food and he sees something that might be either a mushroom or a toadstool. The most direct way of finding out which it is would be to pick the object from its stalk and eat it. If it is a mushroom, the child will live to pick another day. If it is not, he has removed himself irreversibly from the arena of learning. The teacher enters by playing the role of vicar for consequences, and his existence makes feasible the committing of error. In short, the teacher states in one way or another that eating this particular thing will kill you or not kill you as the case may be. It follows from this, does it not, that one of the first functions of teaching is to make possible the presence of error, and, as we shall see shortly, to make error possible in an instructive way. The consequences of error, then, should always be less grave when there is teaching present than when learning is direct and unmediated by a teacher. This is an obvious point, but it is not a trivial one and it may easily be forgotten.

INSTRUCTIVE ERROR

I used the expression "instructive error," and we must now look at what such an error amounts to. To be instructive, an error must have the effect of reducing the range of alternative errorful acts that the learner will perform in comparable situations later. To use the language of commonsense rather than information theory, this means that the learner must have some sense of what it was about his act that was in error so that he may be spared committing one like it again. What is most interesting about errors is that they have a logical structure, some of them quite interesting and others quite trivial. . . .

The real point about instructive error and the logical structure that underlies it is that when there is a teacher present, it should be possible to utilize the error to increase its instructiveness, to make the error understandable. In most cases this consists of making clear the distinction between signal and noise, or essence and accident as it used to be called in the classical philosophy. In the case of the mushroom-toadstool example, it consists of calling attention to the fact that the toadstool in contrast to a mushroom has certain distinctive features of size and shape and color and habitat. . . . In short, if we can say that teaching makes possible the commission of error, it also serves the function of an analyzer, as the physicist would say—it analyzes the essential from the non-essential, and thereby elucidates error.

MACHINES PROGRAMMED FOR ARTIFICIAL INTELLIGENCE

Before we turn to a third function of teaching, let me comment briefly on one universal feature of all minds and of all instruments that simulate mind—machines programmed for artificial intelligence. It is a feature worthy of being mentioned over and over again. They all are characterized by a limited span of attention or immediate memory as it is sometimes called. That is to say, we can hold in mind simultaneously only a certain number of independent items, hold them in mind and manipulate or transform them. The estimate for human beings is that about seven unrelated items can be held in mind, and that much beyond this there is interference between the items and a notable drop in their manipulability. This limited span is not something to lament, and it is not something on whose expansion you can reasonably hope to work. Brute memory training is a rather unrewarding form of exercise for it yields only the realization that not much can be done about it—not much in the sense of expanding the simple span. The only reasonable thing that you can do is to see that, as my colleague George Miller puts it, the seven slots are filled with gold rather than dross. Let me explain this by an example.

Turning dross into gold consists of recoding materials into a form such that one can not only hold more in mind, but hold it in mind in a way such that one can regenerate information. Let me duly inform you, for example, that a certain free falling body dropped a distance of 144 units in 3 seconds, 256 units in 4 seconds, had reached a distance of 1600 units at 10 seconds, and at 13 seconds was observed at a distance of 2704 units from its point of origin. This is pretty dull stuff, and fortunately we know that you will have forgotten it in a few minutes. In the form presented it just about chokes up your channel capacity, as span is sometimes called by communications engineers. If you teach well, you will have had your students scurrying for a recoding by now, one that will permit easy holding in mind and ready manipulation—in this case the manipulation that results in adequate interpolation and extrapolation: "Where was the object at 5 seconds, where was it at a minute?" Or, "Is this happening on earth or on the moon?" Some of you have already recognized that the numbers are readily recodable in terms of the formula for falling bodies in the earth's gravitational field with a constant of gravitation of about 32, the formula being as ancient as Galileo. You can hold it in mind and leave enough room to hold in mind simultaneously a correction formula to take account of atmospheric densities. The two formulae taken in conjunction will permit you to regenerate any and all information you need about distances fallen on any planet in any atmospheric field, and if you do a little more recoding, you may rediscover some more laws of nature.

TEACHING CAN NEVER BE JUST THE PRESENTATION OF MATERIAL

My digression, intricate in detail though it was, has an overwhelmingly important point to be drawn from it about the nature of teaching. It is that teaching can never be just the presentation of material, material about some subject. It cannot be that unless you have no respect for nor knowledge about the nature of the human span. For it is the proper function of the teacher to present information in such a way and in terms of such a structure that the learner can get maximum regenerative travel from the material to which he has been exposed. This immediately brings up the rewardingly complicated issue of how one presents different kinds of material in order to honor properly this particular function of teaching. What materials should be presented to the learner at different stages, and in what order and pattern? We have experts who are charged with the task of devising subject-matter curricula, and I do not mean to belittle the importance of what they do. Usually they are highly knowledgeable about children and what they can absorb, and likely as not they have had such direct experience in dealing with children in the process of learning particular subjects. Almost never, however, are they the great creative minds in the substantive fields for which they are designing a curriculum. And here I wish to make a debatable point. It is that the structure of a field and therefore the order of approach to it is best understood by the person who has the deepest understanding of the field—he is the one who best knows what things are worth struggling to understand and when. If we are to do an adequate job of presenting models or structures in terms of which facts and data can be recoded for better retention and subsequent use, the great men in the substantive fields will have to work with the expert on the process of child learning to devise curricula that are comprehensible and worth comprehending. It is far from clear, for example, that the particulars of primary arithmetic are worth teaching first in view of the fact that they are such a special case of more general mathematics which, once grasped, provides a simple basis for deriving ordinary arithmetic. The difficulty with ordinary arithmetic is that it is so special—however useful it may be in toting up the cost of milk and barley—that it is hard to generalize.

To me, one of the happy signs of our times is that precisely what I am urging is now taking place—alas, only in the sciences, however. The Physical Sciences Study Committee at M. I. T., under the direction of such distinguished physicists as Jerrold Zacharias and Francis Friedman are devising courses in high school physics; comparable projects are in progress at Yale and Illinois in mathematics; at Colorado in biology; and the National Academy of Sciences is now instituting a special study group to investigate the way to regularize on a long-term basis such enterprises across the whole spectrum of the sciences and other branches of learning. It is still too early to say much about the project save that the guiding principle will be to bring together the efforts of three kinds of people: men of the deepest learning in the substantive fields to be taught; students of the principles and techniques of the communication of knowledge such as psychologists, information theorists, specialists in the theory of display, etc.; and finally, experts in the learning capacities of children with experience in the reality of teaching in school settings.

ADDITIONAL FUNCTIONS OF TEACHING

Let me turn now to some additional functions of teaching. I should like to consider next something that is as paradoxical as it is simple. It has to do with the protected nature of the learning situation where school teaching occurs. When we learn in the process of doing, *in situ*, there is little separation between the act of learning and doing something with what we have learned. Teaching has the effect of separating the two, learning and doing. This is partly a function of the fact that the teacher is present properly to cushion the consequences of learning which removes learning from its usual context. It is partly due, too, to the fact that the teacher, in order to set forth the structure of a subject matter, must remove the learning from the context of action so that various alternative ways of looking at material may be considered. It is a necessary *antinomy*, this distinction between reflection and action. Yet it has a danger. The danger is that that learning may become passive and benchbound, that the learner (as I have put it elsewhere) does not make the leap over the boundary between learning and thinking. By thinking I mean the operation of utilizing information to go beyond that which has been given to that which might be likely. Any operation that involves going beyond the information given is what constitutes the link between the isolated learning of the teaching situation to the requirement of action based upon what has been learned. It is such internalized action—these operations of going beyond—that constitutes the condition for getting travel out of what has been learned. Let me spell out this matter a little.

REVERSIBILITY

Mental growth from childhood to adolescence and then to adulthood consists, according to Piaget and others, of internalizing action, rendering it into symbolic form, and then endowing it with what has been called reversibility. The last point is of huge importance, reversibility. Overt action once learned tends not to have this property. Having learned to write words from left to right, for example, we are not thereby enabled to trace out the same words from right to left. Cognitive or mental operations, on the other hand, are notably reversible. In simplest form, we imagine that we have eaten something, and we can then immediately imagine the reverse of not having eaten it, considering the two simultaneously if necessary. In more formal terms, reversibility in the case of mathematical operations consists of being able to add two quantities together and then to reverse them back to their original form by subtraction. It is the internal means whereby we are enabled to scan alternatives, to work without being irreversibly committed to action.

Now the only way in which I know of to assure that operations are performed on what has been learned—that thinking occurs—is to shift emphasis from time to time from the intake side to the output side, to *make* learners do something with what they have learned. Indeed, the learning process geared together with good teaching can combine the two. The simplest version of this is to make the student predict or extrapolate to new facts before they are told to him so that the new information has the effect of confirming or infirming the cognitive operations in terms of which he is using his already mastered knowledge. The story is told of the great English historian Trevelyan that on the occasions when he had gone home to his study without the source materials that he needed for the next sections of his work, he would often reconstruct by prediction what must have happened. Needless to say, he would be quite uncannily correct on all matters save the inessentials—names, dates, and places. I do not mean to say that names, dates, and places are unimportant. Rather, what is centrally important is what happens. So perhaps students ought to have the kinds of historical textbooks in which the next chapter can be sealed up and the student tested on his ability to foretell what would be in it before reading it. I could not be more serious. Is it not the function of historical intuition that it presumes to aid one in a sense of what our own times mean? Would it not be a modest start in the development of such intuition to ask a student who has just completed a "unit" on the age of discovery to try some predictions about the age of colonization?

Once I did see a teacher specifically encourage a class to organize and use minimal information to draw a maximum number of inferences and it impressed me deeply. The teacher modeled his technique, I suppose, on the tried method of the storyteller. He presented the beginnings of the Whiskey Rebellion and said to his pupils, much in the manner of Ellery Queen speaking to his readers, "You now have enough to reconstruct the rest of the story. Let's see if we can do it." He was urging them to cross the barrier from learning into thinking. It is unhappily true that this is a rare exception in our schools.

RESEARCH EXPERIMENT AT HARVARD

I do have one experiment to report that provides encouragement, one that was devised and carried out by the research group with which I am associated at Harvard in collaboration with teachers in the fifth grade of a good public school. It is on the unpromising topic of the geography of the North Central States and is currently in progress so that I cannot give all of the results. We hit upon the happy idea of presenting this chunk of geography not as a set of knowns, but as a set of unknowns. One class was presented blank maps, containing only tracings of the rivers and lakes of the area as well as simple notation of the natural resources. The students were asked as a first exercise to indicate where the principal cities would be located, where the railroads, and where the main highways. Books and maps were not permitted and "looking up the facts" was cast in a sinful light. Upon completing this exercise, a class discussion was begun in which the children attempted to justify why the major city would be here, a large city there, a railroad on this line, etc.

The discussion was a hot one. After an hour, and much pleading, permission was given to consult the rolled-up wall map. I will never forget one young student, as he pointed his finger at the foot of Lake Michigan, shouting "Yipee, *Chicago* is at the end of the pointing-down lake." And another replying, "Well, OK: but Chicago's no good for the rivers and it should be here where there *is* a big city (St. Louis)." These children were thinking, and learning was an instrument for checking and improving the process. To at least a half dozen children in the class it is not a matter of indifference that no big city is to be found at the junction of Lake Huron, Lake Michigan, and Lake Ontario. They were slightly shaken up transportation theorists when the facts were in.

The children in the conventional class got their facts all right, sitting down, benchbound. And that was that. We will see in six months which group remembers more. But whichever does, one thing I will predict. One group learned geography as a set of rational acts of induction —that cities spring up where there is water, where there are natural resources, where there are things to be processed and shipped. The other group learned passively that there were arbitrary cities at arbitrary places by arbitrary bodies of water and arbitrary sources of supply. One learned geography as a form of activity. The other stored some names and positions as a passive form of registration.

If I have made it appear up to this point that teaching has to do principally with the task of rendering the world less dangerously consequential, more economical to handle cognitively, and more predictable, I have left out one important feature of the teaching task. It has to do with the degree to which the adult teacher is in a more advantageous position than the child to recognize and communicate a sense of the alternative plights into which man can fall. In a somewhat more formal context a moment ago, I remarked in passing that the teacher, by delaying the necessity for external action and emphasizing reversible internal operations, gave the child a sense of alternatives. With respect to the life of a society, there are similarly alternative models upon which one can pattern oneself. These are frequently called the myths of a society, and myth in this sense does not mean untruth. Penelope as a faithful wife is not an untruth by virtue of being a fiction, nor is Emma Bovary in the plight of *la femme incomprise* faced with the grievous problems of love and adultery. Hercules is not just a story, but a symbolizing of aspirations for omnicompetence and infinite wiles. If one grasps the symbolism of Perseus slaying the hateful Medusa, guiding the telling thrust by her reflection in his polished shield rather than by looking upon her directly and being turned to stone, then one has grasped the metaphoric meaning of the law and wherein one becomes the victim of evil attacked directly—the protection of the mediating shield.

The enduring body of a culture's literature is a storehouse of myths that symbolize and condense the myriad forms of the rather limited range of plights that characterize the life of a people. The great student of myth and legend, Joseph Campbell, remarks that there has been a breakdown in what he calls the "mythologically instructed community," the community that shares a set of instructive myths about life and its alternative ways. In contrast to the classic times of Greece, we are indeed without a unified corpus of myth. In its place have arisen the forms of modern literature, notably the novel, and in the literature of the last century and a half one finds traced not so much externalized myth as what might better be called a record of voyages into the interior. It is by knowledge of those voyages that one comes to a sense of the alternative forms of coping or fleeing, one gains a knowledge of life beyond what one might immediately encompass in direct experience however long one lives.

And how does this relate to the function of teaching? I should like to propose that the teacher of literature has a function akin to the teacher of empirical subjects such as science and history. Where the latter attempts somehow to provide a model, indeed alternative models of the *external* world one encounters, it seems to me that it is the function of the teacher of literature to use the corpus of novels and drama to elucidate the *internal* world and its alternative expressions. And indeed, much of what I said earlier about learning and thinking might well hold here. What better exercise for the development of a tragic sense—without which there can be no sense of compassion—than to have to make an attempt at writing the last act of *Hamlet* having read the others that preceded it. Or if not writing the last act anew, at least considering the various ways in which it might come out and why.

CRITERIA FOR JUDGING THE ADEQUACY OF A THEORY OF TEACHING

Consider now a more general matter that may have the effect of binding together what I have said thus far about the functions of teaching. It would appear, upon reading the literature on the subject in a sketchy way, that there is a certain lack of adequate theory in the field of teaching. Rest easy, I do not propose to set forth a theory of teaching at short notice! Rather, I would like to consider what might be taken to be adequate criteria for judging whether a theory of teaching is adequate, whether it condenses and provides a means for generating new ideas. And let me say that when I use the word theory, I have in mind a very useful thing.

I should begin by commenting that theory is often misunderstood. It is in effect a heuristic or guide that gets you from where you happen to find yourself to where it is that you want to be—particularly so when we are dealing as now with a theory of practice, and all theory is that, once one tries to operate with it. It should be self-evident, should it not, that a theory-in-use has an objective: you wish to build a faster sloop or predict eclipses of the moon or to educate a child in some particular way. Characteristically, a theory-in-use is derived from a more general model or theory about the nature of things that has prediction as its aim. The construction of sloops is a good case in point, for it is guided by theoretical understanding of principles of aerodynamics, hydrodynamics, and the doctrine of the parallelogram of forces. In order to use such knowledge, you have to have in mind what it is that you want to accomplish—whether you want a rough weather boat, one that can operate in shoal water, whether the objective is a spacious hold, and so on. So it goes with the theory of education. Before you can use theoretical formulations concerning the learning process, the nature of child development, and the structure of knowledge in substantive fields you must be clear what you want to use the knowledge for. I have very strongly the impression that one of the grave sources of confusion in the field of education is that educational theorists have difficulty using available knowledge not so much because the knowledge is shaky, but because they do not know what they want to use it for. In short, we are not clear in our image of what constitutes an educated person—the place that we want to get with a learner starting from here. Nor do I think that our confusion is all an affliction. At least it guarantees a certain pluralism in our approach to young people. . . .

MINIMUM OBJECTIVES IN FASHIONING A THEORY OF TEACHING

But there is a limit to proclaiming the virtues of our confusions. I would like to bring my remarks to a close by suggesting some of the minimum objectives that seem to me to be worthwhile in fashioning a theory of teaching.

The first of them should be that the educated person should be one who has internalized a sense of the instructiveness of error. This means in effect that he knows how to try out his ideas with the aid of advice and that error does not stand for defeat. If teaching has succeeded, then fear of error should have been made to subside. In essence, this implies that the individual is better enabled to try out his ideas and to determine whether they are useful or not. It is a simple objective, but it is an exceedingly important one.

A second objective has to do with what some of my colleagues on the Cognition Project at Harvard refer to as "recoding push." Good teaching should have the effect of leading a person to condense and transform what he has encountered into a form that honors the deeper general structure of whatever he has experienced. He, the learner, must have learned ways of respecting his limited cognitive capacities by rendering the welter of material to which he is exposed into something more manageable and he must first recognize when things have become unmanageable. This holds as much for daily life where the "he said, she said, I said" approach to understanding what goes on between oneself and others often blocks deeper understanding, as it holds for any other aspect of life—such as reading the newspaper or attempting to understand technical problems in one's business or profession.

A third objective is that the learner end his formal exposure to teaching well equipped with a set of models or condensations of the nature of the world with which he must cope—the physical world, the biological, the social. Here I have in mind that the task of communicating substantive knowledge is as paramount in fact as we sometimes make out in giving it lip service. I do not think that we will make the desired progress along this front until we reexamine freshly and critically the structure of the knowledge that is to be communicated, and in this endeavor I sense that a revolution is about to take place which will have the effect of bringing the man of learning back into working contact with the teacher.

Finally, it seems to me, the well educated learner should have acquired a sense of the varieties of the human condition—and now I am speaking less of social studies and more of human intuition. So long as the schools feel the need to avoid controversial materials in their teaching of literature—and make no mistake about it, the artistically gripping presentation of human lives is likely to be controversial in the school setting, even if it is becoming less so in that startling medium called television—so long as there is the need to avoid the controversial, we will be tempted to teach pablum rather than plight. I have seen a social studies book in which the passionately fixated Christopher Columbus was presented as a nice kid with a brother Bart amiably going about the task of convincing people that an ocean crossing would be interesting. Its readability figure was superbly low, but it was a lie against the passion to explore. The justification was that it related the experience of Columbus to the experience of the sixth grader. And we in an age in which artificial moons have become a part of common sense! . . .

I have said nothing about the ideal of personal adjustment in education, for it is not within the purview of this essay. I do know that an overburden of personal problems, creating the ground for neurotic processes, can be the prime enemy of the type of vigorously open mind that I have been urging we take as an objective in our teaching efforts. But it is not my impression that good teaching of genuinely worthwhile subject matter has ever had the effect of creating neurosis. What I would suggest is that we pursue our teaching with the utmost vigor while at the same time combatting the kinds of forces in the home, the school, and the society at large that produce crippling effects on the learner. It will not avail us much, will it, if we produce the well adjusted child whose principal virtue is that he is not disturbed. The task is to produce students who, by virtue of the teaching they have received, are able to go beyond what they have been taught to the formulation of their own identity and individuality.

A Relativistic Definition of Stimulus-Response

Morris L. Bigge[2]

Stimulus and response are two often used psychological terms that mean different things to different theorists. From your study of educational psychology thus far, you have been confronted with the development of these terms from their origins to their current usage. How is educational practice affected by the particular interpretation given these words? The author traces their meaning through mechanistic psychologies and attempts to redefine them in a way that seems more in keeping with our present knowledge of human behavior.

Stimulus and response are terms which have become deeply embedded in the vocabulary and the ideas of educational psychology. In recent years the ideas represented by these words often have been made to correspond to the concepts of cause and effect as used in the physical sciences. Psychologists, in their attempt to avoid assumption of any metaphysical purposiveness, have posited a mechanistic behavior devoid of purpose in any sense, teleological or otherwise.

---

[2] from Journal of Educational Psychology, Dec. 1955, 46:457-463. Reprinted by permission of author and publisher.

Current mechanistic educational psychology shows the influence of attempts to derive directed activities without assuming directed dynamic factors in human behavior. Behaviorists and connectionists have attempted by means of concepts, such as "goal gradient" or "law of effect," to recognize directed factors in behavior without surrendering a basically mechanistic position. Inasmuch as it is coming to be generally recognized, in educational psychology, that an atomistic stimulus-response idea is not adequate for describing human behavior, the tendency of many contemporary psychologists who continue to hold to a mechanistic outlook is to speak of "molar behavior" and of "total responses to patterns of stimulation." Educational psychologists may recognize behavior as molar, speak of situations and patterns of response, and emphasize "belongingness"; yet, as long as they maintain their allegiance to some modern version of associationism such as behaviorism or connectionism, they are clinging to a frame of reference fundamentally different from, and incompatible with, that of a truly relativistic field-theoretical approach.

Gates states, "The term *connection,* bond or tendency, does not refer to any neurological concept or agent at all. It refers to a functional relation between a situation and a response. It refers to an observed phenomenon and implies no neurological correlate. It implies nothing except that there is an observed tendency for a situation to be followed by a response." He later continues, "Stimulus-response is a psychological, not a neurological theory." To one relativistically oriented, "psychological" means in harmony with the logic of a growing mind. Thus in the interest of consistency, there would seem to be a need to redefine stimulus as something other than a "situation to be followed by a response." For a stimulus to be a stimulus a response must be going on.

A prevalent current practice among educators of defining learning as change in behavior reflects or implies mechanistic definitions of stimulus and response. Observable *results* or *outcomes* of learning are interpreted to be the actual learning. It is true that when a person has learned or is learning, his behavior probably changes. However, it does not follow that, for learning to take place, there must be an observable change in behavior. Change of behavior is an indication that learning has been or is taking place, but the change of behavior is not the learning. Learning is more adequately defined as development of insight or understanding.

Traditionally, within patterns of mechanistic psychologies, insight has been defined as a special kind of learning. Insight as used by a relativist does not necessarily imply, "some penetration into the (absolutely) true nature of things." It means the way one senses or sees things in a situation. It is a basic sense of pattern or relationship. Insight, thus, might be defined as a "sense of belongingness"—should belongingness be construed in non-mechanistic fashion. However, it cannot be defined as a sense of belongingness that is gained through repetition, in that repetition as such is not essential to the learning process. A more adequate theory would define all learning, at least so far as human intelligence is involved, as development or modification of insights. Insights are instrumentally, but not absolutely, true. They serve as accurate or dependable guides for action.

A relativistic field theory differs from any mechanistic theory of human behavior in that it assumes that intelligent behavior is purposeful. This assumption, however, is accompanied by no attempt to assert or deny existence of teleological forces. It simply means that a person, behaving intelligently, acts as if he were trying to do something; and that, if one is to predict accurately what a person will do in a given situation, he must envision what that person is trying to do.

Two basic tenets of a field theory are that behavior is to be derived from a totality of contemporary co-existing factors, and that these are to be considered in a dynamic field of such nature that the state of any part of a field depends upon every other part of that field. A relativist, in the study of intelligent human behavior, assumes that each person is unique in purpose and in experiential background; and that the reality upon which one bases intelligent action consists of that which he *makes* of the objects around him. In any field—science, social relations, morality, and even religion—each individual is the maker, not of *the* world but of his *notion* of the world. For psychological theory to be most applicable to the problems of modern education, in light of the present stage of scientific development, mechanistic patterns of thinking must be superseded by conceptualizations subsumed under a relativistic outlook. This relativistic outlook in educational psychology would reflect the influence of field theories such as those developed by Kurt Lewin, Boyd H. Bode, and kindred academic spirits, and would harmonize with the philosophic outlook of John Dewey.

If the terms stimulus and response are to be retained and incorporated into a field psychology, developed within a relativistic frame of reference, their meanings must be carefully redefined to harmonize with this pattern of thinking. Field psychology entails a situational point of view as opposed to the historical approaches of most earlier psychologies. Behavior depends on neither the future nor the past but on the present field. To predict behavior of a person one must take into consideration his total contemporaneous life-space which includes the person, his environment, his insights, and his goals.

TREATMENT OF MOTIVATION

A relativist in educational psychology assumes that intelligent human action is purposive and must be interpreted in light of the goals it is designed to achieve. An individual acts in such a way as to achieve his goal or goals—satisfy his wants or desires—in the quickest and easiest way that he comprehends or senses as possible under existing conditions. When a person behaves intelligently, he acts as if he is pursuing a purpose and as if he has some foresight as to how the purpose is to be achieved. When one has a purpose, he displays a capacity to refer present conditions to future results, as well as future consequences to present conditions.

Man's ability in abstraction and conceptualization enables him to define his purposes symbolically, through use of articulate speech. When a person is motivated toward doing something, his description of the situation is that he wants or desires to do it. He consciously carries activity forward to a goal through a process within which he constantly searches out conditions for the next step, all along the way. Moreover, a relativist who takes his relativism seriously sees continuity in the nature of learning throughout the animal kingdom. He observes purposefulness of behavior in adults, in children, and in lower animals, each on his own intellectual level.

Conventional laws of psychology are based on statistical predictions. Statistical predictions may apply to the average of children or to the typical behavior of an age-group, but they do not predict what a certain given person will do in a specific situation. Objectivity in psychology demands representing the field adequately and accurately as it exists for the individual in question at a particular time. Thus, in a sense, to be objective in psychology one must be subjective. One must look at things as the person being studied looks at them. In Lewin's basic formula, $B = f(P,E)$, behavior is produced by the totality of co-existing facts. This totality is a psychological field. This psychological field is not defined in terms of mere consciousness or awareness. Rather, it is a dynamic whole of such nature that a change in any part affects other parts, and every change depends upon the whole. Behavior is a f—function of P—psychological person and E—psychological environment.

Mace has developed some extensions of Cannon's theory of homeostasis; (1) what is maintained or restored is not so much an internal state of an organism as some relation of an organism to its environment, (2) discovery of new equilibria is a more apropos description than restoration of equilibrium, (3) in the end state of a goal-directed process something is discovered which has not been experienced before or new goals are created. In attention, tensions are set up when we are presented with something incomplete, unclear, or unfamiliar. A task is presented or a problem is posed. Processes ensue which terminate in completion of the task or solution of the problem. Something is discovered and in discovery tension is relieved.

A relativist, in defining psychological terms such as stimulus and response, assumes a bipolar relationship of person and environment. Instead of thinking of an environment (stimuli) impinging upon a physical organism, he assumes that in any situation a person acts in accordance with the psychological field which he perceives. This field is not defined in "objective," physicalistic terms, but in the way it exists for a person at a given time. A thing is perceived only as a relationship among an object, a viewer, and the background of the situation. In a psychological field, rather than passive behavior as a mechanistic response to an activating environmental factor called a stimulus, there is postulated an actively interactive experience—conscious behavior. Experience consists of a person trying something and simultaneously undergoing or noting the consequences of his attempt. "To 'learn from experience' is to make a backward and forward connection between what we do to things and what we enjoy or suffer from things in consequences."

INTERACTION—PASSIVE OR ACTIVE?

Interaction is a popular term in current treatises on educational theory. When one searches for an incisive definition of the concept he finds that, in describing person-environment relationships, the word is used in two quite different senses. It may be used to denote a passive process within which a person or an organism is stimulated or modified by the environment and, in turn, the environment is modified by the organism. Each, organism and environment, is assumed to be passive while it is being acted upon by the other; e.g., a man is bitten by a dog, then the dog is kicked by the man. A stimulus from an object impinges on the end organs of a passive organism. The organism then responds. The temporal sequence is stimulus-organism-response. Since it is recognized that a human organism can modify its environment—change something outside of itself—the process within which the environment influences is called interaction or the interactive process.

Interaction has been used in a second (relativistic) sense by John Dewey and others to describe a process in which a person actively appraises his environment as contrasted with his being passively stimulated by it. "An experience is always what it is because of a transaction taking place between an individual and what, at the time, constitutes his environment." One's environment consists of those conditions which interact with personal needs, desires, purposes and capacities to create the present experience. Experience includes an active and a passive element peculiarly combined. "On the active hand, experience is *trying*. . . . On the passive, it is *undergoing*. When we experience something we act upon it, we do something with it; then we suffer or undergo the consequences. We do something to the thing then it does something to us in return: such is the peculiar combination. The connection of these two phases of experience measures the fruitfulness or value of the experience. Mere activity does not constitute experience."

The concept of active interaction in experience involves a description of situations. For a person to live in a world he must live in a series of situations. One experiences through acting and perceiving the consequences of his acts. Every experience both takes up something from those experiences which have gone before and modifies in some way the quality of the experiences which follow. It influences in some degree the objective conditions under which future experiences are had. When a child learns a thing, he determines to some extent the environment in which he will act in the future.

In Lewin's basic formula $B = f(P,E)$, the state of the person and that of the environment are not mutually independent. In a sense, the state of the environment depends upon the person and, conversely, the state of the person depends upon his environment. It is impossible to derive the psychological processes in the life-space without including, in the representation, changes in both person and environment. A bi-polar relationship of person and environment determines behavior. The psychological environment is the environment as it exists for the person. It is not identical with a person's physical surroundings. Everything in which, toward which, or away from which a person can perform psychological locomotion is part of his psychological environment. "One of the basic characteristics of field theory in psychology, as I see it, is the demand that the field which influences an individual should be described not in objective physicalistic terms, but in the way in which it exists for that person at that time. . . . To describe a situation 'objectively' in psychology actually means to describe the situation as a totality of those facts, and of only those facts, which make up the field of that individual."

A relativist, taking available data into consideration and harmonizing it to the best of his ability, concludes that a concept of active interaction is highly fruitful in a scientific study of human behavior. He recognizes that there are incidents in which one is passively influenced by an object from outside his organism; e.g., when a man not cognizant of any danger is shot from the back. However, whenever there is intelligent behavior, active interaction is highly descriptive of the situation. One cannot derive behavior teleologically from the future, neither can one derive it from the past. A psychological event is always a result of the interaction of many factors and is to be explained in terms of apparent relations.

Psychological person and psychological environment function as sub-wholes of a psychological, contemporaneous field or life-space. If stimulus and response are to be retained as descriptive terms in this frame of reference, stimulus suggests environment-centeredness whereas response refers to the functioning of cognitive and manipulative abilities of a person.

STIMULUS AND RESPONSE DEFINED WITHIN RELATIVISM

A relativist does not insist on discarding the terms, stimulus and response; neither, however, does he use them in the mechanistic sense of their origin. Behavior, for him, is not a passive response to an activating environmental factor called a stimulus. He sees little basis for assuming that "a crucial interval of delay occurs" between the psychological stimulus and the psychological response. He redefines stimulus and response to mark a distinction within a larger field. Since an entire field operates as a unit, stimulus and response cannot be separated from each other temporally; they can be contrasted only in terms of function. To repeat, for a stimulus to be a stimulus a response must be going on. One does not first see objects and then respond to them—he sees objects in terms of the response he makes to them. "The reason why we speak of a stimulus at all is that the coördination or situation is *inadequate;* there is a drive or pressure toward a better coördination or adaptation. The stimulus is that phase of the situation which requires to be made more definite or explicit; the response is constituted by the reactions which create the need for a more adequate determination of the conditions for further activity. A stimulus, then, is a stimulus, in a psychological sense, only as long as there is this need for greater definiteness. When this definiteness is achieved, there is no longer any purposiveness at this point; the resultant action becomes an element in the next coordination." Events such as seeing and hearing [occur] because [action is already] going on.

Stimulus and response, in so far as they are related to intelligent behavior, operate concurrently and simultaneously. In any perceptual situation, the whole field, including the organism, is actively interactive from the start. The existence of neural couplings need be neither affirmed nor denied. The point is that the concept of couplings or connections is inadequate for describing the function of learning in the most fruitful manner. There is a certain definite set of the motor apparatus involved in hearing just as much as there is in subsequent running away. Movement and posture of the head and tension of the ear muscles are required for "reception" of a sound. It is just as true to say that a sensation of sound arises from a motor response as that running away is a response to a sound.

When behavior is viewed mechanistically it is assumed that a stimulus merely activates or starts an activity of an organism, whereas, if intelligent behavior is assumed to be purposive, a stimulus undergoes continuous reconstruction throughout the whole course of the activity. A stimulus is a continually changing directive factor—directive in the sense of acting as a tool for achieving a goal. It changes cooperatively with the organic response as a person progresses toward his goals.

Learning Theory in School Situations

Esther J. Swenson, G. Lester Anderson, and Chalmers L. Stacey[3]

One of the most interesting questions for teachers is the effect that differential methods have on the learning process in classroom situations. This report summarizes the results of three studies in this area. The findings lend themselves to some general observations on the formulation of an adequate learning theory. The methods are related to theoretical positions in educational psychology, which makes them doubly interesting.

In calling for an aggressive attack on problems of learning theory at the human level, Hilgard takes the position that ". . . a psychology limited to animals below man will always fall short." He points out also that the results of learning experiments are functions of many variables, including the nature of the situation or task; the motivation of the subjects, that is, what they are trying to do; how the learners proceed; and how the outcomes are measured. Furthermore, the results of experiments *may* be limited to the particular conditions under which learning took place. He objects, therefore, to the assumption, without experimental exploration or confirmation, that principles which are sufficient to account for what occurs in simple learning situations will also be adequate to account for learning in complicated tasks. It may well be that a psychology of learning built from experiments on the memorization of nonsense syllables will seem quite primitive when placed beside a description of what happens when subjects gain insight into the relationships of a highly structured situation and reorganize their behavior accordingly in order to reach a goal. Also, a description of how subjects learn when confronted with tasks so difficult that they happen onto the solution only accidentally will emphasize features that either do not appear or seem much less prominent in a description of how learning takes place when the tasks are more nearly within the subjects' level of comprehension. As we shall see later, it is risky to generalize from the results of learning situations in which the correct response is arbitrarily designated by the experimenter to learning in meaningful situations in which the subjects can discover the correct response by insightful means. If we are to understand the full character of human learning, we must, as Hilgard contends, "break through the rigidity which makes us think of nonsense syllable lists, mazes, conditioning experiments and target-practice as exhausting the phenomena of learning."

Hilgard not only urges experimentation with many kinds of tasks under a variety of conditions, but also proposes that we investigate how human beings learn in actual life situations, as well as in the laboratory. There is a reciprocal relationship between fundamental and applied research. Principles formulated in more precisely controlled laboratory situations, and theories constructed from as yet incomplete empirical data need to be experimented with "at the point of application." The purpose of this kind of experimentation is not merely to determine how to apply general principles in specific and practical cases, important as such application may be. "Research on practical problems," Hilgard points out, "if well done, not only adjusts theory to practice, but contributes to substantiating, refuting, or extending theoretical knowledge."

---

[3] (Minneapolis: Univ. of Minn., 1949). Reprinted by permission of the authors and publisher.
The part quoted here is the Introduction, written by T. R. McConnell, summarizing the three studies which are reported in the remainder of the volume.

This monograph includes abstracts of three doctoral dissertations on the psychology of learning. All three report experiments with human subjects. All of them involved experimentation with meaningful material, though in some of the experimental groups, the meaningfulness was not exploited in the directions given the subjects. Two of them were investigations of classroom learning in which divergent learning theories were applied to the teaching of arithmetic. The third was designed to determine the validity of certain results of Thorndike and his students concerning the law of effect by substituting for the acquisition of arbitrary associations the discovery and generalization of meaningful relationships. All three investigations were concerned with fundamental problems in learning theory. The results are significant for both theoretical considerations and for practical problems of learning and instruction.

Hilgard groups theories of learning broadly into two main families—association theories, on the one hand, and field theories on the other. . . . For the purposes of this introduction, it is sufficient to say that association theories look upon learning as the formation of specific bonds or connections, while field theories take the position that "something like insightful learning, be it called learning with understanding or learning under cognitive control, is the characteristic form of learning." It is the relative efficacy of learning according to these two basic theories that is the subject of the first two sections of this monograph.

Dr. Esther J. Swenson investigated the effectiveness with which second-grade children learned the basic addition combinations under three different learning and teaching procedures: (a) those which emphasized the formation of specific bonds or connections directly without effort to rationalize the correct responses or to discover them, and which, in fact, discouraged any attempt to derive answers meaningfully, (b) those which encouraged the comprehension of relationships and the discovery and formulation of meaningful generalizations, and (c) an intermediate process in which the children were given the opportunity to verify the answers to the combinations and in which the combinations were grouped by sum. Dr. Swenson found that the method of meaningful generalization was significantly superior in number of combinations learned, in retention, and in transfer to untaught addition items and untaught subtraction combinations. The children did in fact learn under the method which held meaningful comprehension and organization to the minimum, but they learned less effectively than under the method which put a premium on insightful activity.

In interpreting Thorndike's psychology of learning, one of his students has written into it a high degree of relational, goal-directed learning. It is true that Thorndike wrote that " . . . every bond formed should be formed with due consideration of every other bond that has been or will be formed; every ability should be practiced in the most effective possible relations with other abilities." It is also true that his principle of belonging has been interpreted as a concession to the organizational and insightful features of learning. But it is difficult to reconcile the notion that each bond should be formed in proper relation to other bonds with the following passage, also from Thorndike, on the psychology of arithmetic: "Time spent in understanding facts and thinking about them is almost always saved doubly by the greater ease of memorizing them." Thorndike is not a systematist in the true sense perhaps, but a psychologist who has been primarily concerned with practical educational problems. Nevertheless, when examined with theoretical issues and principles in mind, it is clear that Hilgard is correct in his conclusion: "The flavor of Thorndike's theory has all along been that of the automatic strengthening of specific connections—directly, without intervening ideas or conscious influences." In another passage Hilgard characterizes Thorndike's position as follows: "Learning is always specific, never general; when it appears to be general, it is only because new situations have much of [the old] in them."

Turning to Thorndike's assumption that more complex human learning is explainable in terms of the simpler, Hilgard makes the following observations:

". . . Thorndike's failure to give real concern to the way in which past habits are utilized in problem solution, to consider what arrangement makes a problem hard, what easy, when the same essential bonds are involved, is a genuine limitation. The difference is a real one for school practice. It is possible to teach number combinations first (establish the 'bond'), then expect some glimmer of understanding later, or it is possible to achieve some understanding of what numbers are for, to comprehend the situation as a problem, and then to learn the combination in this context. In the end you come out at the same place, knowing the tables and knowing how to use them, but it is not a foregone conclusion that the one method of teaching will be more efficient than the other, either for knowing precisely what has been taught or being able to apply it in new situations." . . .

Dr. Swenson's experiment adduced evidence that, under the conditions of her investigation, a meaningful method of learning the addition combinations was superior to methods based on connectionism, especially when the criterion was transfer to new situations. Dr. G. Lester Anderson investigated essentially the same issue in the learning of arithmetic by fourth-grade children. Against arithmetical processes analyzed into a large number of relatively discrete elements learned through formal repetition, he pitted arithmetical processes as a highly organized system of ideas and principles learned from the beginning in meaningful fashion with practice *after* rather than *before* rationalization. On the one hand, he utilized connectionism and its relevant methods of teaching and learning as faithfully as possible, and on the other he applied the broad principles of field theory as wisely as he could. What were the results?

When the criterion of achievement was the ability to recall the knowledge and skill in a relatively unchanged form or situation from that in which the original learning took place, there was little difference between the pupils who had relied on repetition of specific elements and those who had followed procedures which encouraged understanding and meaningful organization. But when the criterion was the ability to apply what presumably had been learned to new situations which differed not in principle but in detail from those in which the original learning had taken place, the pupils who had been encouraged to comprehend mathematically what they were learning and to capitalize on meaningful relations were significantly superior.

But these results did not occur for all pupils in either group. Dr. Anderson discovered that the two methods of learning had a differential effect for pupils of different levels of intelligence and initial achievement. There is no space here to go into these findings in detail. Suffice it to say that on the basis of them he formulated a hypothesis concerning the relationship of practice and of activity for the attainment of understanding. This phase of Dr. Anderson's investigation may, after further exploration and experiment, add strength to the hypothesis that certain learning theories are more complementary than mutually exclusive.

In both the Swenson and Anderson investigations, the meaningful method of learning emphasized active discovery by the pupils rather than drill on connections "authoritatively identified." Presumably the former would be opposed by connectionists because it would lead to initial errors which might persist, thus making the establishment of the correct response all the more difficult. Connectionist educational doctrine goes something like this: Identify the situation and the response; make sure the learner can make the response to the situation; put him through the correct reaction and reward him. Thorndike states the basis for this prescription in the following passage:

"The attainment of active rather than passive learning at the cost of practice in error may often be a bad bargain. . . . The learner's self-punishment when he makes a mistake may sometimes be no better than the punishment in our experiments.

"The almost universal tolerance of imperfect learning in the early treatment of a topic, leaving it to be improved by the gradual elimination of errors in later treatments, is probably unsound and certainly risky. What removes the errors (later) is the rewarding of right connections and such rewarding might better be put to work earlier."

It is important to note that the basis for these conclusions and admonitions was a series of experiments in which the subjects had to guess the response which the experimenter had arbitrarily designated as correct. For example, subjects might be given a list of nonsense words each of which was followed by four English words, of which one was supposedly related to the stimulus word. The subjects were directed to "guess" the correct response. As soon as they made a choice, they were told "right" or "wrong," or perhaps were "rewarded" by small amounts of money or "punished" by an electric shock or a money fine, and given the next stimulus word. This was known as the *vanishing situation*. The effect of the same kinds of rewards and punishments was studied in the *retained situation*. Here the correct response was also arbitrarily designated by the experimenter, but the subjects kept guessing after each stimulus word was presented until they hit upon the correct response. Thus they would be punished for incorrect responses, but would have the satisfying aftereffect of a reward for the right response before moving on to the next stimulus word. The results showed that in the retained, as in the vanishing situation, "the occurrence of the wrong response strengthens the connection more than punishment offsets."

But is it valid to draw the sweeping generalization that "the attainment of active rather than passive learning at the cost of practice in error may often be a bad bargain" from data that were secured from investigations in which the correct reactions were arbitrarily rather than logically determined, so that the subjects could get no insight into the tasks they had been asked to learn? Thorndike's generalization strikes at the very heart of the kind of school which John Dewey conceived and his more intelligent followers brought into being. Furthermore, his generalization strikes at the fundamental theory that learning is a process of discovery, of understanding, of invention, and of creative reorganization of experience.

In the experiments by Dr. Swenson and Dr. Anderson, the pupils who were encouraged to discover arithmetical relationships and generalizations for themselves presumably could have made a good many initial errors. But instead of being handicapped by self-discovery, they proved in the end to be superior in ability to pupils for whom the connections—the correct responses—were identified.

Dr. Chalmers Stacey decided to subject Thorndike's results and conclusions to experimental evaluation in more direct fashion. He studied the law of effect in the retained situation, but with meaningful material. Dr. Stacey's subjects were one hundred sixth-grade children. The learning material consisted of a list of fifty items each composed of five English words, one of which did not logically belong with the other four because of some principle inherent in the choice of these words. The one hundred subjects were divided into five equal groups and each group was given a different amount of information concerning the nature of the task, ranging from the simple statement that one of the five words in each item did not belong with the other four to being told what the extraneous word was and what principle was involved. Pupils who were given the minimum amount of information would presumably have to take the most active attitude toward the learning situation, and those given the most information would have the greatest opportunity to practice without initial error.

Dr. Stacey's results confirmed Thorndike's data on the efficacy of rewards and the inadequacy of punishment in learning, but revealed that in the situations that provided the greatest opportunity for self-activity and discovery, errors were less detrimental to learning than in cases in which the correct responses were identified for the subjects. In the former instances, the pupils learned as many or more correct responses and apprehended more underlying principles than in the cases in which the correct choices and reasons were authoritatively identified. . . .

Dr. Stacey's analysis was much more extensive and his findings much more detailed than indicated above. But the point to be emphasized at the moment is that what holds true for one kind of learning situation may not hold true for another kind. We have based too many of our interpretations and generalizations concerning human learning on experiments in which subjects, because of the nature or difficulty or arrangement of the task, could only work blindly, or on investigations of learning rote or arbitrary associations, or of learning material in which the factor of structure or organization was at a minimum. Our knowledge of the psychology of human learning will advance most fruitfully through experiments in which the opportunity for the subjects to use their intelligence is conspicuous by its presence rather than its absence. It is unquestionably useful to learn everything possible about rote learning. . . . But in studying rote learning, we concentrate on the very kind which the school should hold to the absolute minimum. [As Hilgard says,] "It is the insistence upon easily obtained quantities which has led to too much experimentation on rote memorizing, maze learning, conditioning, and rat lever-pressing."[4]

Hilgard does not disparage quantification as such, but only as the effort to secure it keeps the psychologist from moving into new and more complex kinds of experiments in which precision and exactness are at first difficult or impossible to attain. The three experiments summarized in this monograph attack significant educational problems, and they cut into central issues in learning theory. Furthermore, in experimental design, procedure, and analysis they represent distinct progress in the investigation of complex learning situations. And on the basis of such experiments, a new picture of human learning begins to take form: learning no longer appears as essentially stupid, but takes on the lines of "sensible, reasonable adjustment according to the requirements of the situation."

---

[4] E. R. Hilgard, **Theories of Learning** (New York: Appleton-Century, 1948), p. 378.

Hoping? Or Beginning to Know!

Stephen M. Corey[5]

The distance between research and its practical application in the classroom is often greater than it should be. The author of this selection gives reasons for this gap and suggests types of research design that might have more immediate value for the teacher. Conventional research is compared with the "action research method," a comparatively new type of research method that is proving to be an especially rich resource for teachers.

Everything a teacher does with children in the class, when he is at his best, is based on either the hope or the knowledge that he is helping them become more effective persons.

When we are working most effectively *as teachers,* whatever we say, whatever we do, the materials we use, the way we use them, our conversations with parents, our attempts at discipline, all result from a more or less conscious thought. In a specific situation the thought might go like this:

> A few of my pupils are not doing at all well expressing their ideas about social studies problems during "conversation time." If I do what I can to make these pupils gain better acceptance by their

---

[5] S. M. Corey, "Hoping? Or Beginning to Know!" **Childhood Education,** Jan. 1954, 30:208-211. Association for Childhood Education International, 1200 15th St., N.W., Washington 5, D.C.

peers, they will improve the quality of their discussion of social studies problems.

This analysis oversimplifies the situation, of course, but it is sufficiently faithful to the facts to raise these important questions:

How does a teacher know that some pupils need to learn better how to express themselves when they are talking together in a group? Is he just guessing? What kinds of observations did this teacher make that led to the conclusion that something especial should be done to improve the discussion ability of certain boys and girls?

What is the source of the teacher's hunch that one reason for the inability or unwillingness of a child to express himself was his feeling that he wasn't accepted by the other members of the group?

How does this teacher find out what he should do to help certain pupils gain better acceptance? How does he learn to do what he decides he should do?

How will the teacher find out what change, if any, has taken place in discussion ability as a consequence of feeling safer and better accepted in the group? How will he know whether or not what he does leads to better acceptance? What kind of evidence will he get?

These four questions, or ones like them, have to be considered in all kinds of teaching at all levels. The answers to them are often based upon hopes, casual impressions, and superficial observations. When this is so, teaching becomes rule of thumb—largely guesswork. We never really know. We learn how to do better only occasionally. We don't seem to improve.

But this isn't necessary. Teachers can become increasingly exact and objective and scientific about what they do. Not scientific in the test tube, white-laboratory-coat sense, but in the sense that they (1) base their judgment as to what children need upon more careful observations of their behavior, (2) evolve teaching-learning situations to meet these needs from a better understanding of what children and their culture are like and the way boys and girls learn, and (3) test the consequences of their teaching by getting more dependable and appropriate evidence of the changes resulting from what appear to be more promising teaching procedures.

RESEARCH ON THE FIRING LINE

When we seek answers to important questions about teaching in this way, we become researchers. We study what we do. We begin to know more and more, rather than to guess or hope more and more. This kind of research is often called "action research." It is a method of problem solving that practitioners—teachers, administrators, supervisors—can employ to improve the quality of their decisions and actions. It is research conducted on the firing line.

People whose work requires coping with practical problems work on these problems more exactly and objectively and scientifically. Action research involves a considerable degree of awareness of various methods of problem solving and much emphasis on facts, on evidence. High quality action research represents the other extreme from reaching decisions and taking actions and inferring consequences on the basis of casual impressions and subjective judgments and guesswork.

PLENTY OF RESEARCH BUT—

For the past forty years, all of us in education have heard a great deal about research. We have been taught to value highly the application of scientific method to the solution of educational problems. Most of what we have learned about research, however, implies that it must be conducted by the well-trained professional investigator. We teachers are then to use the research findings to improve what we do with children.

This traditional or customary or historical conception of educational research emphasizes the discovery of generalizations or principles of broad applicability. The people conducting the research are rarely called upon to do anything about the problems they conduct research on. Their job is to investigate the difficulties with which other people have to deal. Then classroom teachers or supervisors or administrators who hear or read the results of these investigations are expected to behave consistently with them.

This expectation, as almost everyone admits, has not been fulfilled to anywhere near the extent it was hoped that it might. The libraries of teacher education institutions include thousands of articles and books which report what research experts have found out about children and about teaching and learning. Yet most of us tend to go on doing what we have done in much the same way that we have done it. Even though we read these articles or take courses where the findings are reported, the better practices are apt to remain in our heads as verbal descriptions and not affect our behavior very much.

There are many reasons for this gap between what we—or other people—know we should do, and what we do. One of them, and it is consistent with our knowledge about learning, is that those of us who must do something about practical teaching-learning problems are not apt to improve our behavior because of research unless we are partners in the research.

If we, as teachers, are not involved in the research intended to ameliorate or eliminate a teaching difficulty the research findings are not likely to result in our teaching differently. Being told what we should do is quite different from finding out, on our own, what we should do.

If we are involved in the investigations we more fully understand their implications. Because we are involved we get practice forming new attitudes and actually performing the acts that the research studies were designed to evaluate. We are studying our own problems, rather than learning what happened when someone else studied problems like ours. Problems are never exactly alike.

TWO RESEARCH METHODS ILLUSTRATED

The conventional method

A traditional researcher might try to discover the relationship, if any, between a child's acceptance in his classroom group and the quality of his discussion of social studies problems. This researcher would probably be a university professor or a member of a research bureau. He is interested in developing a body of theory about the factors that influence clarity of oral expression. He is thinking about sixth-grade youngsters, and has visited several classes. This hunch or hypothesis occurs to him: "One of the important factors that influences the quality of discussion by a sixth-grade child of social studies problems is the extent to which he is accepted in the group, is wanted and liked."

An inquiry to test this hypothesis might be designed in this fashion. The investigator would first want to be sure that he had a representative sample of all sixth-grade pupils, and he would go to great pains to make certain that this was the case. His reason for wanting this representative sample is his interest in having his findings apply to all sixth-grade youngsters rather than only to those who served as subjects for his study.

He might keep records of discussions in his sample of classes in order to have data for making inferences about the creativity and penetration of the comments made by particular boys and girls.

He probably would get sociometric data to establish two sub-populations. One would include a group of children who were not accepted by the other children. The other population would consist of youngsters who were accepted —who felt that they really belonged.

He would try to keep these two groups constant in respect to age, sex, intelligence, and social studies background. Then he would analyze the quality of the discussion of these two "equated" groups of boys and girls and might come to some such conclusion as this: "There is a significant difference in the quality of discussion by sixth-grade children of social studies problems between accepted and non-accepted children." He then would publish the result of this inquiry.

The presumption would be that teachers of sixth-grade youngsters would hear about this carefully conducted investigation. They might read it. They might be told about it in some inservice or preservice training course. Then, because they had learned that there was a substantial relationship between acceptance in the class group and quality of thinking as represented in discussion, the expectation would be that they would work harder to do whatever they might be able to do to bring the unaccepted youngsters into the group in a sociological sense.

This kind of research is helpful and it may suggest things teachers can do in their own classes if they happen to hear about the investigation, or remember it at a time when they are concerned about the quality of their pupils' discussion. The researcher does not have a personal, firsthand responsibility for doing anything to help boys and girls improve their ability to discuss social problems.

The action research method

If a particular teacher became concerned about the same type of problem he might decide to do some action research in order to cope with it more adequately.

This teacher worried because some of his pupils did not seem to improve as he thought they should in the quality of their discussions of social studies problems. As he considered this problem, and talked with friends, and read what he could of reports of research conducted by other people, he thought he noticed that many of the youngsters who seemed to grow least in their ability to discuss social studies problems were also the youngsters who were on the fringes of the group sociometrically.

Now this hunch might eventually impress him as being so promising that he would proceed to test it—in order to be a better teacher. He might test it thoughtfully and carefully, getting good evidence at every step, or he might proceed casually and uncritically. In other words, his action research might be of poor or good quality. But only in the latter case could he have much confidence in his conclusions.

Perhaps he first used a simple sociometric choice technique for finding out a bit more objectively who the unaccepted youngsters really were. Then he devised a method to appraise the relative quality of the discussion in the social studies classes where there were rejected youngsters.

His efforts next might be directed to doing a number of things to help these boys and girls gain better group acceptance. As the sociometric evidence indicated that they were working their way into the group he would look for any change in the quality of their discussion.

At the end of a semester or a year he might [make] this tentative conclusion. . . . "As this or that was done to bring these peripheral youngsters into the group, the quality of their participation in social studies discussion situations improved."

Then he would generalize. And the generalization, again a tentative one, might be: "In future situations of this sort, where I am eager to have boys and girls grow in their ability to discuss social studies problems thoughtfully, I will, from the very beginning, pay especial attention to the extent to which all of the youngsters are integrated into the group's social structure."

Until more and more of us try, as this teacher did, to *study* what we are doing, to conduct action research to better our own practices, improvement in our ways of working with boys and girls is apt to come very slowly. . . . Most of us feel better when we begin to know, rather than having so often to hope or guess.

INTERPRETING THE SELECTIONS

Bruner article

1. After reading this selection, attempt to formulate your own theory of teaching. How well does your theory fit the criteria for an adequate theory of teaching as set forth by Dr. Bruner?

2. What is the difference between learning and thinking? Give an example of how you might implement the necessity to "leap over the boundary" between the two in a classroom situation.

3. Which geography group would you expect to remember more at the end of six months? Why?

4. Explain and give an example of the statement that "it is the proper function of the teacher to present information in such a way . . . that the learner can get maximum regenerative travel from the material to which he has been exposed."

5. What does the author mean by "recoding push"? What application would this concept have to your teaching area?

Bigge article

1. Why have psychologists been so leery of describing behavior as purposive?

2. Defend or attack the definition of all learning as the development or modification of insights.

3. In what ways might acceptance of a relativistic definition of stimulus-response affect educational research and practice?

4. What concepts in this article are supported by ideas found in the Bruner article?

Swenson and others article

1. Send for this publication (if not already available in your library) and read about the three studies in greater detail.

2. Repeat the Stacey experiment in your own class or design a comparable one to see if your findings bear out his conclusions. A committee from the class might be designated to prepare and conduct this experiment with the rest of the class as subjects. Would you expect the findings to be affected by the subjects' previous knowledge of what it was all about?

3. How could these three studies benefit you, as a teacher, in your plans for teaching fifth-graders about the westward expansion? In teaching algebra to high-school freshmen? Be specific, and plan a lesson in detail.

Corey article

1. Give another example contrasting the action research approach and the conventional research approach.

2. What are the advantages and the disadvantages of each of the two research methods?

3. What training in research skills would a teacher need in using the action research method in the classroom?

9
WAYS OF LEARNING

The Psychology of Imagination

Frank Barron[1]

Creativity and imagination are generally regarded as positive attributes that we would like to be able to foster in ourselves and others. How much do we really know about the sources of creativity in human behavior? Is there a genuine conflict between creativity in individuals and the demands of society to adapt to a norm? Psychologists have recently undertaken the investigation of creativity through a variety of research projects. The following article is an account of a study that was projected in order to ascertain the characteristics of creative individuals.

By his imagination man makes new universes which are "nearer to the heart's desire." The sorcery and charm of imagination, and the power it gives to the individual to transform his world into a new world of order and delight, makes it one of the most treasured of all human capacities. Indeed, when we imagine divinity, we impute to it the power to have imagined *us*, and by an act of will to have created us. Ever since man became conscious of himself, imagination has had in it something of mystery and magic, and has seemed a process which cannot be completely understood.

Against this background of a somehow desirable and proper mystery which surrounds the creative act, it is perhaps a bit brash to undertake a scientific study of imagination and originality. The psychological research institute of which I am a member, however, has done just that, and for the past eight years we have been concerned to discover what kinds of individuals possess in high degree the powers of constructive imagination and original thought.

If the undertaking seems brash, the techniques of study are modest enough, and in eight years of work we cannot claim to have greatly diminished the mystery. The best that can be said is that certain uniformities do seem to characterize highly original scientists and artists, and that these uniformities have suggested speculations which may provide the basis for further empirical investigations.

In this article I shall describe a study (for which I have been primarily responsible) of the characteristics of a large number of individuals in a group including painters, writers, physicians, physicists, biologists, economists and anthropologists. . . .

---

[1] from Scientific American, Vol. 199, No. 3, Sept. 1958, pp. 150-166. Reprinted by permission of author and publisher. Copyright © 1958 by Scientific American, Inc. All rights reserved.

The way in which the common human need for order is related to the constructive possibilities and fruitful challenge which may be found in apparent disorder provided the focus for an early series of our experimental studies at the Institute. One dictionary definition of disorder links it to such terms as "confusion, neglect of rule, irregularity, disarrangement, tumult and disease." There is little doubt that most people dislike being confronted with disorder. In individuals who turn out original work in science or in art, however, a reversal of the usual attitude may be observed.

My own initial observation of this reversal occurred in a study of esthetic preferences and esthetic expression in individuals whose relative degree of originality could be estimated. The materials used in studying preferences included abstract line drawings, colored reproductions of several hundred famous paintings, architectural designs, and cartoons. In the study of expression we confronted the subject with incomplete drawings which he was to complete as he liked, written images from which he was to construct a poetic metaphor, inkblots of ambiguous form which he was to interpret, colored pasteboard squares from which he could assemble a mosaic of his own design, and stage properties from which he was to create a scene on a miniature stage.

The degree of creativeness of the individuals was estimated on the basis of opinions ventured by their colleagues or by experts in their medium of expression. These estimates were related to their preferences and performance as indicated by our tests. Our purpose was to determine how creative people respond to order and disorder, and whether their response differs from that of others.

To take one example, the abstract line drawings were made in black ink on three-by-five-inch white cards, and they were varied primarily in terms of the degree to which they were drawn according to a geometric principle visible at a glance. The simplest forms were the straight line, the circle, the square and the triangle. Complex polygons presented a somewhat less obvious principle of construction, and arrangements of curves a still less obvious principle. At the other pole from the simple geometrical figures were drawings which appeared to be childish scrawls or totally unarranged scribbles. When we asked the subjects to describe these figures, they applied such words as regular, neat, clean, orderly and static to the simple geometric figures, and such words as irregular, messy, whimsical, dynamic, disorderly and chaotic to figures at the other extreme.

The first group of subjects studied with these drawings, which are part of the Welsh Figure Preference Test, were some 80 painters from New York, San Francisco, New Orleans, Chicago, and Minneapolis. The painters showed a marked preference for drawings which were complex, asymmetrical and, in their terms, vital or dynamic. They also displayed considerable tolerance for drawings which most people would consider chaotic. In general they expressed what can only be called aversion for the figures which were simple and obviously symmetrical.

We then presented the same drawings to doctoral candidates in some dozen teaching departments, primarily in the faculty of science, at the University of California. The candidates had been separated into two groups, the more original and the less original, on the basis of faculty ratings. We were somewhat surprised to discover that the more original scientists expressed preferences very similar to those of artists.

In preference for paintings, too, the more original subjects were inclined to like best the apparently unbalanced. Impressionism, cubism, abstract expressionism—these were the schools of painting whose products they preferred. What they seemed to like was the work of art which accented some usually unobserved aspect of nature, or which attempted a radical reconstruction of the common-sense world of reality.

The same tendencies were apparent in the tests which require active expression rather than mere preference—the completion of line drawings and the construction of mosaics. Original individuals were disposed to introduce asymmetry and complexity into their drawings and mosaics.

Behind this inclination to like and to construct what is not too simply ordered there appears to be a very strong need to achieve the most difficult and far-reaching ordering. When confronted, for instance, with the Rorschach inkblot test, original individuals insist to a most uncommon degree upon giving an interpretation of the blot which takes account of all details in one comprehensive, synthesizing image. Since some of these blots are quite messy, this disposition to synthesize points up the challenge of disorder. It also illustrates the creative response to disorder, which is to find an elegant new order more satisfying than any that could be evoked by a simpler configuration.

Another psychological trait which is commonly associated with originality of thought is independence of judgment. This trait has been studied experimentally by Solomon Asch at Swarthmore College [see "Opinions and Social Pressure," by Solomon Asch, *Scientific American*, November, 1955].[2] Both in Asch's subjects and in those who took part in a modified version of the Asch experiment in our own studies, a clear relationship has been established between independence of judgment and originality.

Asch's basic procedure has been to place an individual in radical conflict of judgment with other individuals who are understood by him to be possessed of no special information, but who are in fact confederates of the experimenter. The apparent experimental task is to match the length of a given line with one of three other lines which are not equal to one another. The confederates of the experimenter announce their judgments one at a time, and always in the same order. The individual who is not aware of the real nature of the experiment is placed so that he is one of the last to respond. On most of the trials the experimenter's confederates give answers which conform to the length of the lines, but on some trials they consistently give prearranged false answers. The uninformed subject then has a choice of giving the correct answer or contradicting the evidence of his senses and going along with the others.

Asch found a rather disconcerting readiness in his subjects to abandon the evidence of their senses and to bow to the prearranged group consensus. However, about 25 per cent of the subjects in the undergraduate groups he studied were not swayed by the false consensus, but persisted in giving the correct answer. Although Asch was not primarily interested in the personality characteristics of independent and yielding subjects, he made available to me for personality testing a group of 42 subjects who had remained independent and another 42 who had yielded consistently to the false group consensus. Among the opinions expressed significantly more often (in response to a true-false type of questionnaire) by the independent subjects were the following:

1. I like to fool around with new ideas, even if they turn out later to be a total waste of time. (True.)
2. The best theory is the one that has the best practical applications. (False.)
3. Some of my friends think that my ideas are impractical, if not a bit wild. (True.)
4. The unfinished and the imperfect often have greater appeal for me than the completed and the polished. (True.)
5. I must admit that I would find it hard to have for a close friend a person whose manners or appearance made him somewhat repulsive, no matter how brilliant or kind he might be. (False.)
6. A person should not probe too deeply into his own and other people's feelings, but take things as they are. (False.)
7. Young people sometimes get rebellious ideas, but as they grow up they ought to get over them and settle down. (False.)
8. Perfect balance is the essence of all good composition. (False.)

These results suggested that the subjects who remained independent were more open to innovation and to the challenge presented by apparent imbalance and imperfection on the surface of things. In addition, when using a self-rating scale which included among other traits that of "originality," the more independent subjects described themselves much more frequently as original than did the yielders. (While at first this might seem immodest, it must be remembered that in the presence of a psychological questionnaire one can feel quite alone.)

In any event, the results suggested the possibility of establishing by experiment that independence of judgment is associated with originality. The relationship has been shown directly by using in conjunction with a modified version of the Asch experiment a set of psychological tests which measure originality. These tests, a number of which have been developed by J. P. Guilford and his associates at the University of Southern California, are designed to elicit novel responses and unusual solutions to problems. While the actual test questions cannot be given here, some idea of their nature may be conveyed with substitute examples. In one such test the subject is given the names of common objects (such as wheelbarrow, light bulb, piano) and asked to suggest unusual uses to which these objects may be put. In another test he is asked to suggest consequences of highly improbable events (*e.g.*, all human beings have suddenly become deaf; an unexplained genetic alteration will result in an average decrease of two feet in stature in the next generation; one nation in the world has found a way to raise its average I.Q. by 50 points). Other tests include anagrams (scored for rarity of proposed solutions), inkblots (scored for unusual interpretation), pictures of dramatic situations which serve as the starting point for storytelling (rated for originality), and plot situations for which titles are to be constructed (rated for cleverness). Judging by our results so far, individuals who regularly perform in an original manner on these tests are also independent in judgment when put under pressure to conform to a group opinion which is in conflict with their own. . . .

---

[2] This article is reproduced in the present volume, pp. 269-273.

The relationship of creativity to psychological health and to peace of mind and body has long been argued. It was my pleasure recently to participate in a conference on the goals of psychotherapy, in which a number of extremely amiable psychoanalysts, psychiatrists and psychologists found themselves in considerable agreement about the goals of therapy, and, by implication, about the characteristics of a psychologically healthy human being. The traits most commonly mentioned as indicating a state of psychological health were: (1) accuracy of perception of reality, (2) stable body functioning and freedom from psychosomatic disorders, (3) absence of hostility and anxiety, (4) capacity for friendly and cooperative relations with other people, (5) spontaneity and warmth, (6) social responsibility. An excellent combination, I said to myself. However, as I continued to listen in comfort and mild edification, I suddenly realized that my thoughts had drifted off to a description. I had recently read of Robert Hooke, the brilliant 17th-century scientist whose achievements place him second only to Newton among his contemporaries, and whose prolific originality in experimentation has remained unsurpassed. Hooke suffered throughout his life from severe headaches, from indigestion so troublesome that he noted gratefully in his journals any meal that happened to agree with him, from giddiness and insomnia. . . .

Images of other figures drifted through my mind: of the apocalyptic rages of Beethoven, the savage indignation of Jonathan Swift, the terrible loneliness of van Gogh, the criminality of Rimbaud, the shameless preenings of Baudelaire, the stoical despair of Emily Brontë, the excruciating physical and spiritual pain endured by Heine. I felt distinctly uneasy; could it be that these creative people had been in need of psychotherapy?

Certainly one difference between them and the perfect product of psychotherapy and the happy life was that they did not *manage themselves* very well. I began to feel that some of the ideals we had been discussing were rather mechanical. The correct perception of reality, in the superficial sense of the term, began to lose its charm. The ideal of adaptation suggested a well-adjusted, frictionless machine, tended in genial fashion by a little mechanic known as the strong ego, or the self-esteemed self, or the voice of reason. I had heard warmth mentioned, but not heat; spontaneity, but not passion. No one had spoken of willfulness, fierce self-assertion, hatred of an established order. These are often the stamp of the creator, and, if adaptation and maturity in human relations are the essentials of psychological health, then the creative genius is frequently not healthy.

But one cannot readily abandon the idea that to create is in some sense—perhaps in the best sense—to be healthy in mind. Yet how can the maladjustment of many great creative minds be reconciled with the assertion that they are in some respects unusually healthy?

Perhaps some light is thrown on the matter by our finding that creative individuals are more at home with complexity and apparent disorder than other people are. In the evolutionary sense, the most advanced adaptation of the human organism is the faculty of conscious attention.

This faculty subsumes discrimination, memory, reflection, judgment in the service of prediction —we have come to call it the ego. We associate the ego with order; the unconscious with disorder. Turbulence and instability characterize the organization of ideas and impulses which are outside conscious attention. The creative individual, in his generalized preference for apparent disorder, turns to the dimly realized life of the unconscious, and is likely to have more than the usual amount of respect for the forces of the irrational in himself and in others.

This respect consists in a faith that the irrational itself will generate some ordering principle if it is permitted expression and admitted to conscious scrutiny. To put the matter more strongly, I believe that the creative individual not only respects the irrational in himself, but courts it as the most promising source of novelty in his own thought. He rejects the demand of society that he should shun in himself the primitive, the uncultured, the naive, the magical, the nonsensical; that he must be a "civilized" member of the community. Creative individuals reject this demand because they want to own themselves totally, and because they perceive a shortsightedness in the claim of society that all its members should adapt themselves to a norm for a given time and place.

When an individual thinks in ways which are customarily tabooed, his fellows may regard him as mentally unbalanced. In my view this kind of imbalance is more likely to be healthy than unhealthy. The truly creative individual stands ready to abandon old classifications and to acknowledge that life, particularly his own unique life, is rich with new possibilities. To him, disorder offers the potentiality of order.

I would propose the following statements as descriptive of creative artists [and scientists]:

Creative people are especially observant, and they value accurate observation (telling themselves the truth) more than other people do.

They often express part-truths, but this they do vividly; the part they express is the generally unrecognized, by displacement of accent and apparent disproportion in statement they seek to point to the usually unobserved.

They see things as others do, but also as others do not.

They are thus independent in their cognition, and they also value clearer cognition. They will suffer great personal pain to testify correctly.

They are motivated to this value and to the exercise of this talent (independent, sharp observation) both for reasons of self-preservation and in the interest of human culture and its future.

They are born with greater brain capacity; they have more ability to hold many ideas at once, and to compare more ideas with one another—hence to make a richer synthesis.

In addition to unusual endowment in terms of cognitive ability, they are by constitution more vigorous and have available to them an exceptional fund of psychic and physical energy.

Their universe is thus more complex, and in addition they usually lead more complex lives, seeking tension in the interest of the pleasure they obtain upon its discharge.

They have more contact than most people do with the life of the unconscious—with fantasy, reverie, the world of imagination.

They have exceptionally broad and flexible awareness of themselves. The self is strongest when it can regress (admit primitive fantasies, naive ideas, tabooed impulses into consciousness and behavior), and yet return to a high degree of rationality and self-criticism. The creative person is both more primitive and more cultured, more destructive and more constructive, crazier and saner, than the average person.

When the distinction between subject (self) and object is most secure, the distinction can with most security be allowed to disappear for a time (as in mysticism and in deep love). This is based on true sympathy with the not-self, or with the opposite of those things which comprise defensive self-definition. The strong self realizes that it can afford to allow regression, because it is secure in the knowledge that it can correct itself.

The objective freedom of the individual is at a maximum when this capacity exists, and creative potential is directly a function of freedom.

Among the creative people my colleagues and I have studied during the past years has been a group of writers of considerable distinction. We were not surprised to encounter rather spirited objections from some of the writers whom we decided to ask to make a contribution to the study. In trenchant and not particularly orderly prose, about a fifth of those who responded to our initial letter pointed out the intrinsically evil character of psychological research. The objections to such research are mainly on these counts: it is vivisection; it is an expression of the effort of organized society to encroach upon the individual and rob him of his freedom; it is presumptuous because it seeks to describe and to understand what is intrinsically a mystery. Psychological diagnosis is, moreover, a form of name-calling; it is a way of having the last word; it does not respect the individual. Finally, it is the present seeking to impose itself upon the future and to perpetuate the *status quo* through techniques which will identify the potentially constructive deviant and permit a stultifying society to control him.

Since psychological research at its worst may indeed be destructive in just such ways, socially responsible psychologists have reason to sleep almost as uneasily as socially responsible physicists. This particular study has proceeded in recognition of some of the dangers which may be inherent in it, and it has been able to proceed because most of the creative writers who have been asked to participate have been willing to trust the investigators and to accept the inevitable hazards of all efforts at increasing knowledge. Both scientists and artists have something to fear when they embark upon the unknown. In his *Life of William Blake* Alexander Gilchrist records three lines from Samuel Palmer's account of a conversation with Blake about the latter's designs for Dante's *Inferno:*

> He said he began them with fear and trembling.
> I said, "Oh, *I* have enough of fear and trembling."
> "Then," said he, "you'll do."

Factors Affecting Creative Thinking in Children: An Interim Research Report

E. Paul Torrance[3]

The subject of this second selection is again creativity, this time in children. What are creative thinking abilities, and what factors affect their development? Does creativity differ between boys and girls? At what ages are children most creative? The author has made exploratory studies into this area of creative thinking and has issued a tentative report on his findings.

The author and his associates have just completed the second year of a continuing series of studies to investigate the factors affecting the development of the creative thinking abilities in children. Exploratory studies have already been made of the effects of a variety of factors hypothesized to affect the development of these abilities. Some of these have been factors in nature and society; others have been variables which have been manipulated experimentally in the laboratory and/or the classroom.

---

[3] from Merrill-Palmer Quarterly of Behavior and Development, Vol. 7, No. 3, 1961, pp. 171-180. Reprinted by permission of author and publisher.

Of the factors in nature and society, these studies thus far indicate that the following factors affect the development and/or expression of creative thinking:

1. Educational level
2. Differential treatment of boys and girls
3. Premature attempts to eliminate fantasy
4. Restrictions on manipulativeness and curiosity
5. Conditions resulting in fear and timidity, in both authority and peer relations
6. Misplaced emphasis on certain verbal skills, especially on mechanics
7. Overemphasis on prevention and on "success"
8. Lack of resources for working out ideas

Although the results of some of the laboratory and field experiments are not yet available, preliminary analyses indicate that the following experimentally manipulated variables affect significantly the production of ideas or functioning of the creative thinking abilities:

1. The composition of the group in which the thinking takes place (homogeneous or heterogeneous)
2. Competition
3. The teaching of principles for thinking up ideas (e.g., in product improvement tasks, the well known Osborn principles of combining, adding to, and the like)
4. The nature of the "warm-up," instructions (quantity vs. quality), and practice (unevaluated vs. evaluated practice)
5. Rewarding creative thinking (treating questions with respect, treating imaginative ideas with respect, encouraging and evaluating self-initiated learning, etc.)
6. Activities which help children to value their own ideas (e.g., encouraging the "idea-trap" habit)

Consideration has been given to many other factors and doubtless there are still others that have not yet been studied. These happen to be the ones about which the most data have been developed. Only educational level and sex will be considered in this paper.

MEASURING THE CREATIVE THINKING ABILITIES

Before presenting some of our results concerning the effects of educational level and sex, it will be necessary to give you some idea concerning the tasks used to measure the creative thinking abilities.

At first, we felt that our best bet would be to adapt for use with children some of the tasks used by Guilford. Accordingly, we developed two alternate forms of the following tasks adapted from Guilford: Unusual Uses, Impossibilities, Consequences, Problem Situations, Improvements, and Problems.

Almost simultaneously we began experimenting with several other types of materials suggested by analyses of the reported experiences of eminent scientific discoverers, inventors, creative writers, and the like. One of these, called the Ask-and-Guess Test, requires the child first to ask questions about a picture, questions which cannot be answered by looking at the picture. Next he is asked to make guesses or formulate hypotheses about the causes and consequences of the behavior shown in the picture. In the Product Improvement Test we have used common toys and asked children to think of improvements which would make them more fun to play with. We also asked them to think of unusual uses of these toys other than as something to play with. A Problem Situations Test somewhat different from Guilford's was devised. For example, one such task requires the subject to think of all the possible things Mother Hubbard could have done when she found no bones in the cupboard.

Various non-verbal tasks have been developed. One of these is an adaptation of Frank Barron's Picture-Completion Test. Another is the Circles and Squares Test. In one form, the subject is confronted with a page of circles and asked to sketch objects which have as a major part a circle; in the alternate form, squares are used. The Shape Test requires the subject to create a picture, using as the base stimulus standardized shapes of colored paper. The instructions stress originality and elaboration.

From these tasks, scores have been developed for such factors as the following: verbal fluency, non-verbal fluency, spontaneous flexibility, originality, inventiveness, constructiveness, elaboration, curiosity, hypothesis formation (causes and consequences), and the like. This approach differs from Guilford's in that he stresses the desirability of factorial purity in the tasks, whereas this author has calculatedly used fairly complex tasks involving two or more types of thinking. Then an attempt is made to assess the resulting products in terms of the kinds of thinking evidenced. Factor analyses now in process will guide future development of the measures.

The coefficients of correlation between the measures derived from these tasks and performance on traditional tests of intelligence are quite low and frequently not significant. Computations of product-moment coefficients have been made within grades and separately for different measures of IQ. With the Stanford-Binet in a university laboratory elementary school, we obtained a mean coefficient of correlation of .17; with the Lorge-Thorndike, a mean of .27 in the laboratory high school. In a parochial elementary school, using the Kuhlman-Finch, a mean of .26 was obtained; in a public elementary school in Minneapolis, using the California Test of Mental Maturity, a mean of .24 resulted; in a small-town elementary school, using the Otis Quick-Scoring Test of Mental Ability, a mean of .32 was obtained. In a class of gifted elementary school children at the intermediate level a coefficient of correlation of .03 was obtained. In a sample of 70 counselor trainees in the graduate school, a coefficient of .10 was obtained between the measure of creativity and scores on the Ohio Psychological Examination and −.02 with scores on the Miller Analogies. Whatever the measure of intelligence used, we would miss about 67 per cent of the upper 20 per cent on creativity if we were to rely upon the IQ metric alone for selecting the top 20 per cent as a gifted group for any purpose.

These results are similar to those reported by Hargreaves in 1927 for his tests of imagination. He found statistically significant relationships with tests of intelligence when he scored his tests for fluency but not when he scored them for originality.

The author and his associates are continually working with problems of reliability and validity. Reliability in scoring has been kept consistently above .90 among raters through the use of detailed scoring guides and training of raters. As data from longitudinal studies and from pre- and post-tests in field experiments accumulate, more meaningful indexes of reliability can be established. Concerning validity, first efforts have been made to ground the tasks theoretically in what is known about the creative process. As intermediate criteria of validity, teacher and peer nominations have been used and the results have been promising. Children who scored high on the tests of creative thinking initiated more ideas than their peers in standardized tasks requiring creative thinking. Department store saleswomen who ranked in the upper third in volume of sales scored significantly higher than those who ranked in the lower third in sales. Also, saleswomen who worked in departments rated by the personnel director as requiring creativity scored significantly higher than those working in other departments. Other evidences of validity are being collected on a continuing basis.

DEVELOPMENTAL CURVES BY EDUCATIONAL LEVEL

Provisional developmental curves have been established for the various factors which have been assessed. Educational level has thus far

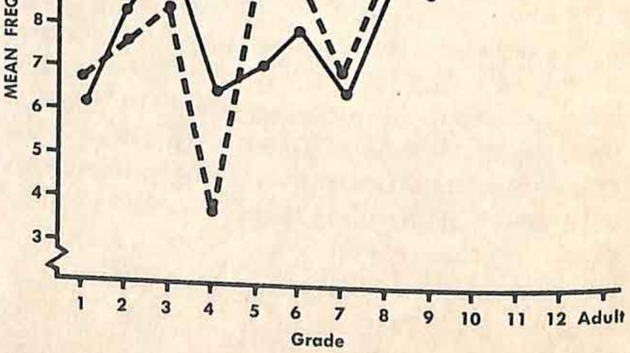


Fig. 1. Developmental curve for the mean frequency of questions asked on Part I, Ask, of Ask-and-Guess Test.

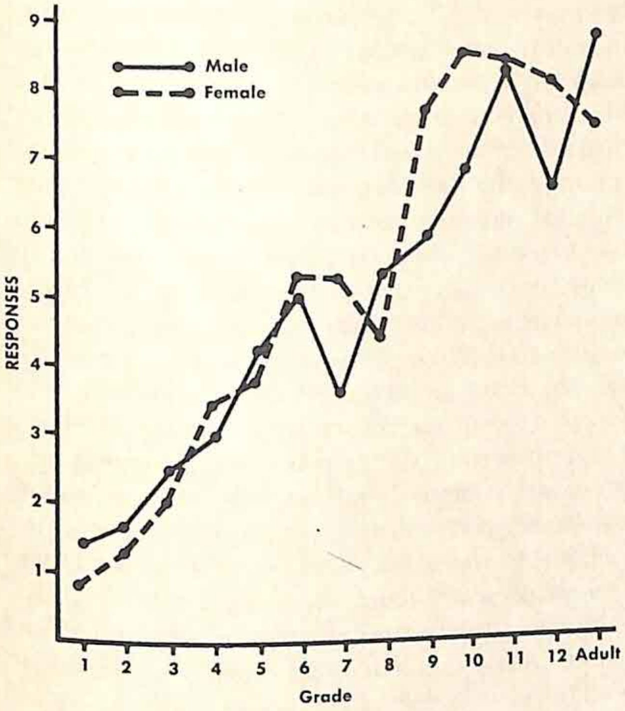


Fig. 2. Provisional growth curves for ability to form hypotheses concerning causation.

been used as the basis for these curves. Each curve is based on from 70 to 200 cases at each educational level, grades one through twelve. In the first three grades, the verbal tasks were administered orally and individually. All others were required to write theirs. Since having to write down one's ideas is inhibiting to some individuals, the tasks were administered orally and individually to two fourth-grade classes. Although interesting individual differences were found, the oral administration did not change the shape of the developmental curves obtained.

The general pattern of most of the developmental curves runs something like this: There is a steady increase from the first through the third grade. With one exception, there is a sharp decrease between the third and fourth grades followed by recovery in the fifth and sixth grades. The developmental curve shown in Figure 1 based on the mean number of questions asked on Part I of the Ask-and-Guess Test is quite typical except for the formulation of hypotheses concerning causation shown in Figure 2. This type of thinking seems to develop slowly but gradually and there is no dip between the third and fourth grades. Instead, there is a healthy increase between the third and fourth grades.

It is also interesting to study the developmental characteristics of the types of questions asked in Part I of the Ask-and-Guess Test. As will be noted from Figure 3, more than 70 per cent of the questions asked by the first, second, and third graders are "Why" questions. As we go up the educational ladder, the frequency of "Why" questions diminishes between the third and fourth grades and then settles down at about one-third of the total number of questions asked. The frequency of "What" and "Be" questions increases and there appears a general tendency to shift from "global" questions through the "specific" to the "definitive." It is also interesting that the characteristic developmental features found in the spontaneous questions of children by Piaget and others are also found under our testing conditions when we "ask children to ask."

Many possible explanations for the sharp decrease in the fourth grade have been advanced and a new series of studies designed to investigate this problem has been launched. For many years, occasional students have called attention to these phenomena. Kirkpatrick in 1900 presented data to show that there is a drop in the imaginative abilities of children in the fourth

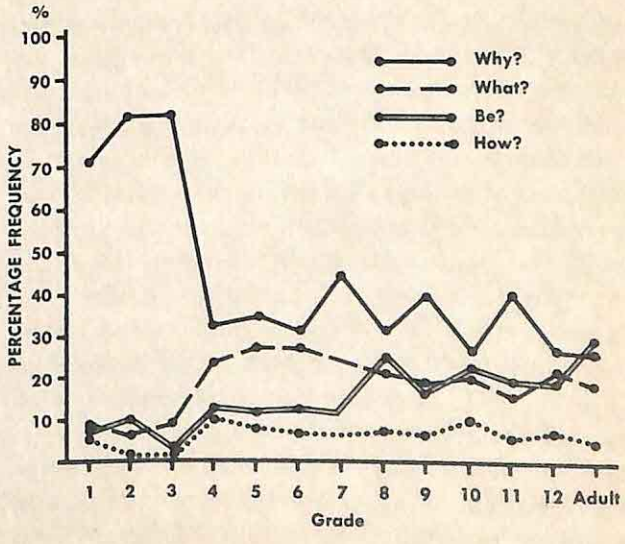


Fig. 3. Frequency percentage curves of various types of questions asked on Part I, Ask, of Ask-and-Guess Test.

grade and that it continues through the fifth and sixth. With his ink-spot task, he found increases again in the seventh and eighth grades. Simpson in 1922, however, reported phenomena almost identical to those reported by the author and his associates. Following a peak in the second half of the third grade, he found a sharp decrement by the beginning of the fourth, followed by a plateau in the latter part of the fourth and fifth. A new peak is reached during the second half of the sixth, followed by decrements in the seventh continuing into the beginning of the eighth. The slow but continuous growth of ability to formulate hypotheses concerning causation has been documented by Piaget, Vernon and others.

Some investigators regard this slump as more or less inevitable, maintaining that the most teachers and parents can do is to "keep open the gates for its return." Others maintain that this "loss of creativity" can be offset at any period in the life-cycle through creative teaching or supervision. It is not known whether or not similar phenomena will be found in cultures outside the United States or even in subcultures within the United States. Developmental data are now being collected in several other cultures and subcultures.

SEX

The differential treatment of boys and girls in our culture apparently produces interesting and significant differences in the ways boys and girls develop their creative thinking abilities.

From first through third grade, boys become increasingly superior to girls in almost all of the creative thinking abilities for which the author and his associates have devised measures. By the fourth grade, however, boys apparently begin losing their battle against conformity to behavioral norms and show a sharp measured decrement in most of these abilities.

These differences in favor of boys emerge even when stimuli inappropriate to the sex role of boys are used. For example, in one experiment three toys were used: a nurse's kit, a fire truck, and a dog. At the first-grade level, girls produced more ideas than boys for improving the nurse's kit so that it would be "more fun to play with." Some of the boys stubbornly refused to think up any ideas for improving the nurse's kit, while others first changed it to a doctor's kit and then suggested improvements. Boys produced more ideas than girls for improving the fire truck and there was scant difference between boys and girls on the dog task. By the third grade, however, boys were clearly superior to girls on this task, both in the quantity and quality (flexibility, constructiveness, originality, etc.) of their ideas for improving all of the toys, including the nurse's kit.

One clue to the superiority of boys over girls on tasks of this kind is the greater manipulativeness of boys. It was found that the degree of manipulation exhibited during the test is related to the number and quality of the ideas produced. This tendency to manipulate, to explore, to experiment, appears also to be involved in invention and scientific discovery.

The superiority of boys over girls was also shown in a group task involving experimentation with science toys. Each group, composed of five members (two boys and three girls or vice versa), was confronted with the task of discovering in the first thirty minutes how many things these toys could be made to do and then in a second thirty-minute period to demonstrate and explain their discoveries. At almost every grade level from second through sixth boys demonstrated and explained more principles than girls. At the fifth-grade level, girls initiated as many ideas as boys but explained significantly fewer principles than the boys.

At the same time that boys are becoming increasingly more inventive and curious between the first and third grades, peer pressures against boys with clever and original ideas are increasing. Girls appear to learn earlier than boys how to gain peer acceptance of their ideas and to avoid being labeled as having "silly" or "wild" ideas. For example, highly creative boys received about four times as many peer nominations as girls on such criteria as: "Who in your class has the most silly or wild ideas? Who in your class has the most ideas for being naughty?" Highly creative boys also tend to have a reputation among their teachers for having "a lot of wild ideas" but highly creative girls do not gain such a reputation. This opinion may stem from the fact that highly creative boys exhibit more uniqueness, inventiveness, and originality in their drawings and other productions than do highly creative girls. Highly creative boys compared with highly creative girls also tend to be less accessible psychologically and to have more internal tension.

In a study just completed it seems clear that the reactions of fourth-, fifth- and sixth-grade girls in one school studied to tasks requiring creative scientific thinking changed in significant and important ways during the period from April 1959 to May 1960. In 1959, boys demonstrated more ideas and explained more scientific principles than did girls. In fact, they demonstrated and explained over twice as many. In 1960, girls in these same classes demonstrated and explained just as many principles as did boys. In 1959, many girls expressed obvious distaste for the science-toy task and tended to withdraw from active participation in it. In 1960, none of this dislike was observed. In fact, girls reported as much enjoyment of the task as boys did.

One aspect of the situation, however, has not changed. The contribution of boys to the success of the group continues to be evaluated more highly than that of girls. There is also a slight and almost significant trend for boys to evaluate their own contributions to the success of the group more highly than do girls. In other words, cultural changes appear to be making it more permissible for girls to participate in and enjoy tasks requiring scientific thinking, but the contributions of boys are still more highly valued by peers than are those of girls. . . .

How Children Form Mathematical Concepts

Jean Piaget[4]

What is the process by which children develop concepts and the ability to apply conceptual thinking to the task at hand? The article below bears directly on ways of learning—not in a formal classroom setting, but rather spontaneously and experientially. After observing children's handling of mathematical concepts and the number system, the author describes some remarkable findings that apply not only to mathematics but also to human knowledge and the learning process in general.

It is a great mistake to suppose that a child acquires the notion of number and other mathematical concepts just from teaching. On the contrary, to a remarkable degree he develops them himself, independently and spontaneously. When adults try to impose mathematical concepts on a child prematurely, his learning is merely verbal; true understanding of them comes only with his mental growth.

This can easily be shown by a simple experiment. A child of five or six may readily be taught by his parents to name the numbers from 1 to 10. If 10 stones are laid in a row, he can count them correctly. But if the stones are rearranged in a more complex pattern or piled up, he no longer can count them with consistent accuracy. Although the child knows the names of the numbers, he has not yet grasped the essential idea of number: namely, that the number of objects in a group remains the same, is "conserved," no matter how they are shuffled or arranged.

---

[4] from Scientific American, Vol. 189, No. 5, Nov. 1953, pp. 74-79. Reprinted by permission of author and publisher. Copyright 1953 by Scientific American, Inc. All rights reserved.

On the other hand, a child of six and a half or seven often shows that he has spontaneously formed the concept of number even though he may not yet have been taught to count. Given eight red chips and eight blue chips, he will discover by one-to-one matching that the number of red is the same as the number of blue, and he will realize that the two groups remain equal in number regardless of the shape they take.

The experiment with one-to-one correspondence is very useful for investigating children's development of the number concept. Let us lay down a row of eight red chips, equally spaced about an inch apart, and ask our small subjects to take from a box of blue chips as many chips as there are on the table. Their reactions will depend on age, and we can distinguish three stages of development. A child of five or younger, on the average, will lay out blue chips to make a row exactly as long as the red row, but he will put the blue chips close together instead of spacing them. He believes the number is the same if the length of the row is the same. At the age of six, on the average, children arrive at the second stage; these children will lay a blue chip opposite each red chip and obtain the correct number. But they have not necessarily acquired the concept of number itself. If we spread the red chips, spacing out the row more loosely, the six-year-olds will think that the longer row now has more chips, though we have not changed the number. At the age of six and a half to seven, on the average, children achieve the third stage: they know that, though we close up or space out one row of chips, the number is still the same as in the other. . . .

In short, children must grasp the principle of conservation of quantity before they can develop the concept of number. Now conservation of quantity of course is not in itself a numerical notion; rather, it is a logical concept. Thus these experiments in child psychology throw some light on the epistemology of the number concept—a subject which has been examined by many mathematicians and logicians.

The mathematicians Henri Poincaré and L. E. J. Brouwer have held that the number concept is a product of primitive intuition, preceding logical notions. The experiment just described [denies] this thesis, in our opinion. Bertrand Russell, on the other hand, has supported the view that number is a purely logical concept: that the idea of cardinal number derives from the logical notion of category (a number would be a category made up of equivalent categories) while the notion of ordinal number derives from the logical relationships of order. But Russell's theory does not quite fit the psychological processes as we have observed them in small children. Children at the start make no distinction between cardinal and ordinal number, and besides, the concept of cardinal number itself presupposes an order relationship. For instance, a child can build a one-to-one correspondence only if he neither forgets any of the elements nor uses the same one twice. The only way of distinguishing one unit from another is to consider it either before or after the other in time or in space, that is, in the order of enumeration.

Study of the child's discovery of spatial relationships—what may be called the child's spontaneous geometry—is no less rewarding than the investigation of his number concepts. A child's order of development in geometry seems to reverse the order of historical discovery. Scientific geometry began with the Euclidean system (concerned with figures, angles and so on), developed in the 17th century the so-called projective geometry (dealing with problems of perspective) and finally came in the 19th century to topology (describing spatial relationships in a general qualitative way—for instance, the distinction between open and closed structures, interiority and exteriority, proximity and separation). A child begins with the last: his first geometrical discoveries are topological. At the age of three he readily distinguishes between open and closed figures: if you ask him to copy a square or a triangle, he draws a closed circle; he draws a cross with two separate lines. If you show him a drawing of a large circle with a small circle inside, he is quite capable of reproducing this relationship, and he can also draw a small circle outside or attached to the edge of the large one. All this he can do before he can draw a rectangle or express the Euclidean characteristics (number of sides, angles, etc.) of a figure. Not until a considerable time after he has mastered topological relationships does he begin to develop his notions of Euclidean and projective geometry. Then he builds those simultaneously.

Curiously enough, this psychological order is much closer to modern geometry's order of deductive or axiomatic construction than the historical order of discovery was. It offers another example of the kinship between psychological construction and the logical construction of science itself.

Let us test our young subjects on projective constructions. First we set up two "fence posts" (little sticks stuck in bases of modeling clay) some 15 inches apart and ask the child to place other posts in a straight line between them. The youngest children (under the age of four) proceed to plant one post next to another, forming a more or less wavy line. Their approach is topological: the elements are joined by the simple relationship of proximity rather than by projection of a line as such. At the next stage, beyond the age of four, the child may form a straight fence if the two end posts parallel the edge of the table, or if there is some other straight line to guide him. If the end posts are diagonally across the table, he may start building the line parallel to the table's edge and then change direction and form a curve to reach the second post. Occasionally a youngster may make a straight line, but he does so only by trial-and-error and not by system.

At the age of seven years, on the average, a child can build a straight fence consistently in any direction across the table, and he will check the straightness of the line by shutting one eye and sighting along it, as a gardener lines up bean poles. Here we have the essence of the projective concept; the line is still a topological line, but the child has grasped that the projective relationship depends on the angle of vision, or point of view.

One can proceed to study this with other experiments. For instance, you stand a doll on a table and place before it an object oriented in a certain direction: a pencil lying crosswise, diagonally or lengthwise with respect to the doll's line of vision, or a watch lying flat on the table or standing up. Then you ask the child to draw the doll's view of the object, or, better still, ask him to choose from two or three drawings the one that represents the doll's point of view. Not until the age of about seven or eight can a child deduce correctly the doll's angle of vision.

A similar experiment testing the same point yields the same conclusions. Objects of different shapes are placed in various positions between a light and a screen, and the child is asked to predict the shape of the shadow the object will cast on the screen.

Ability to coordinate different perspectives does not come until the age of 9 or 10. This is illustrated by an experiment I suggested some time ago to my collaborator Dr. Edith Meyer. The experimenter sits at a table opposite the child, and between the child and herself she places a cardboard range of mountains. The two see the range from opposite perspectives. The child is then asked to select from several drawings the ones that picture both his own and the opposite person's views of the mountain range. Naturally the youngest children can pick out only the picture that corresponds to their own view; they imagine that all the points of view are like their own. What is more interesting, if the child changes places with the experimenter and sees the mountains from the other side, he now thinks that his new view is the only correct one; he cannot reconstruct the point of view that was his own just a little while before. This is a clear example of the egocentricity so characteristic of children—the primitive reasoning which prevents them from understanding that there may be more than one point of view.

It takes a considerable evolution for children to come, at around the age of 9 or 10, to the ability to distinguish between and coordinate the different possible perspectives. At this stage they can grasp projective space in its concrete or practical form, but naturally not in its theoretical aspects.

At the same time the child forms the concept of projective space, he also constructs Euclidean space; the two kinds of construction are based upon one another. For example, in lining up a straight row of fence posts he may not only use the sighting method but may line up his hands parallel to each other to give him the direction. That is, he is applying the concept of conservation of direction, which is a Euclidean principle. Here is another illustration of the fact that children form mathematical notions on a qualitative or logical basis.

The conservation principle arises in various forms. There is first the conservation of length. If you place a block on another of the same length and then push one block so that its end projects beyond the other, a child under six will suppose that the two blocks are no longer of equal length. Not until near the age of seven, on the average, does the child understand that what is gained at one end of the block is lost at the other. He arrives at this concept of the conservation of length, be it noted, by a process of logic.

Experiments on a child's discovery of the conservation of distance are especially illuminating. Between two small toy trees standing apart from each other on a table you place a wall formed of a block or a thick piece of cardboard, and you ask the child (in his own language, of course) whether the trees are still the same distance apart. The smallest children think the distance has changed; they are simply unable to add up two parts of a distance to a total distance. Children of five or six believe the distance has been reduced, claiming that the width of the wall does not count as distance; in other words, a filled-up space does not have the same value as an empty space. Only near the age of seven do children come to the realization that intervening objects do not change the distance.

However you test them, you find the same thing true: children do not appreciate the principle of conservation of length or surface until, somewhere around the age of seven, they discover the reversibility that shows the original quantity has remained the same (*e.g.*, the realignment of equal-length blocks, the removal of the wall, and so on). Thus the discovery of logical relationships is a prerequisite to the construction of geometrical concepts, as it is in the formation of the concept of number.

This applies to measurement itself, which is only a derived concept. It is interesting to study how children spontaneously learn to measure. One of my collaborators, Dr. Inhelder, and I have made the following experiment: We show the child a tower of blocks on a table and ask him to build a second tower of the same height on another table (lower or higher than the first) with blocks of a different size. Naturally we provide the child with all the necessary measuring tools. Children's attempts to deal with this problem go through a fascinating evolution. The youngest children build up the second tower to the same visual level as the first, without worrying about the difference in height of the tables. They compare the towers by stepping back and sighting them. At a slightly more advanced stage a child lays a long rod across the tops of the two towers to make sure that they are level. Somewhat later he notices that the base of his tower is not at the same level as the model's. He then wants to place his tower next to the model on the same table to compare them. Reminded that the rules of the game forbid him to move his tower, he begins to look around for a measuring standard. Interestingly enough, the first that comes to his mind is his own body. He puts one hand on top of his tower and the other at its base, and then, trying to keep his hands the same distance apart, he moves over to the other tower to compare it. Children of about the age of six often carry out this work in a most assured manner, as if their hands could not change position on the way! Soon they discover that the method is not reliable, and then they resort to reference points on the body. The child will line up his shoulder with the top of his tower, mark the spot opposite the base on his thigh with his hand and walk over to the model to see whether the distance is the same.

Eventually the idea of an independent measuring tool occurs to the child. His first attempt in this direction is likely to be the building of a third tower next to and the same height as the one he has already erected. Having built it, he moves it over to the first table and matches it against the model; this is allowed by the rules. The child's arrival at this stage presupposes a process of logical reasoning. If we call the model tower A, the second tower C and the movable tower B, the child has reasoned that B= C and B = A, therefore A = C.

Later the child replaces the third tower with a rod, but at first the rod must be just the same length as the height of the tower to be measured. He then conceives the idea of using a longer rod and marking the tower height on it with his finger. Finally, and this is the beginning of true measurement, he realizes that he can use a shorter rod and measure the height of the tower by applying the rod a certain number of times up the side.

The last discovery involves two new operations of logic. The first is the process of division which permits the child to conceive that the whole is composed of a number of parts added together. The second is the displacement, or substitution, which enables him to apply one part upon others and thus to build a system of units. One may therefore say that measurement is a synthesis of division into parts and of substitution, just as number is a synthesis of the inclusion of categories and of serial order. But measurement develops later than the number concept, because it is more difficult to divide a continuous whole into interchangeable units than to enumerate elements which are already separate.

To study measurement in two dimensions, we give the child a large sheet of paper with a pencil dot on it and ask him to put a dot in the same position on another sheet of the same size. He may use rods, strips of paper, strings, rulers or any other measuring tools he needs. The youngest subjects are satisfied to make a visual approximation, using no tools. Later a child applies a measuring tool, but he measures only the distance of the point from the side or bottom edge of the paper and is surprised that this single measurement does not give him the correct position. Then he measures the distance of the point from a corner of the paper, trying to keep the same slant (angle) when he applies the ruler to his own sheet. Finally, at about the age of eight or nine, he discovers that he must break up the measurement into two operations: the horizontal distance from a side edge and the perpendicular distance from the bottom or top edge. Similar experiments with a bead in a box show that a child discovers how to make three-dimensional measurements at about the same age.

Measurement in two or three dimensions brings us to the central idea of Euclidean space, namely the axes of coordinates—a system founded on the horizontality or verticality of physical objects. It may seem that even a baby should grasp these concepts, for after all it can distinguish between the upright and lying-down positions. But actually the representation of vertical and horizontal lines brings up quite another problem from this subjective awareness of postural space. Dr. Inhelder and I have studied it with the following experiments: Using a jar half-filled with colored water, we ask our young subjects to predict what level the water will take when the jar is tipped one way or another. Not until the age of nine, on the average, does a child grasp the idea of horizontality and predict correctly. Similar experiments with a plumb line or a toy sailboat with a tall mast demonstrate that comprehension of verticality comes at about the same time. The child's tardiness in acquiring these concepts is not really surprising, for they require not only a grasp of the internal relationships of an object but also reference to external elements. . . .

When a child has discovered how to construct these coordinate axes by reference to natural objects, which he does at about the same time that he conceives the coordination of perspectives, he has completed his conception of how to represent space. By that time he has developed his fundamental mathematical concepts, which spring spontaneously from his own logical operations.

The experiments I have described, simple as they are, have been surprisingly fruitful and have brought to light many unexpected facts. These facts are illuminating from the psychological and pedagogical points of view; more than that, they teach us a number of lessons about human knowledge in general.

They Learn What They Live

Helen G. Trager and Marian Radke Yarrow[5]

The ways in which successful teachers operate—the processes through which they induce the kind of learning that makes a difference in the students' later thinking and behavior—are the heart of educational psychology. The following article is concerned with this central problem. It describes an experiment on attitude change. The experiment was chosen because attitude learning is comparatively little understood and because both teachers' attitudes and their skill in changing pupils' attitudes play so crucial a part in the educational process.

[Below are excerpts from the *Philadelphia Early Childhood Project*, a study of attitude change. It is especially fascinating because during the final phase of the study, attitudes on two levels were under investigation–first, the attitudes of children in experimentally organized clubs and, second, the attitudes of the teachers who led the clubs. Due to limitations of space, we will sketch in briefly the outlines of the Project and the way the first part developed and will present the final phase in greater detail.

The Project was carried on over a three-year period. Fifteen teachers representing six schools were selected by their principals and met monthly during the first two years. They were teachers of kindergarten, first grade, or second grade, and most of them had Negro and white children in their classes. Catholic, Protestant, and Jewish homes were represented. They were told that the meetings were to study ways of combating prejudice and of building democratic attitudes in children. Actually the goals were to develop in the teachers "(1) an interest in and awareness of the problems in human relations; (2) an understanding of children's needs, social values, and attitudes; (3) an acceptance of democratic values; (4) a willingness to accept responsibility for intercultural education." (p. 79)

At first the teachers were apathetic or actively resistant. Some were uneasy; most saw no real problem of prejudice in young children. Then, largely through the efforts of five of the group who attended an intercultural education workshop, the group began to look for incidents of prejudice in their classrooms. These incidents were then discussed in subsequent meetings, and it soon became evident that there were many expressions of prejudice and anti-democratic values even in children so young.

Early reports were self-conscious, often involving rationalization and consisting largely of dialogue followed by an account of what the teacher did about the incidents and why. Later reports became more objective, more sensitive to children's feelings and needs, and more descriptive of the quality of behavior and interaction.

From initial apathy and denial of any problem, the teachers progressed to increasing awareness and concern until by the end of the second year they were, as a group, deeply worried about the problem of prejudice in children and beginning to feel a strong personal responsibility to lessen it.

In the latter part of the second year all the children who were later to be in the experimental clubs were interviewed by psychologists. A projective test was used, consisting of several pictures designed to reveal awareness of intergroup differences and feelings toward or against either the child's own group or other groups. The parents were also interviewed for clues as to their role in the formation of the children's attitudes.

---

[5] from They Learn What They Live (New York: Harper & Brothers, 1952). Reprinted by permission of authors and publisher.

Space does not permit a detailed report of the data obtained. There were many evidences that the children had learned fairly complex distinctions of status, ability, character, and acceptance or rejection regarding different racial and religious groups. There were numerous indications of suspicions of other groups, feelings of being "better than" or "less good than," and so on. In some cases the minority group children identified with the attitudes of the dominant culture at the expense of their own self-acceptance. Children who had the most knowledge and awareness of group differences were not necessarily the ones who gave evidence of the strongest prejudices. The following conclusions were drawn:]

None of the variables—age, sex, neighborhood, group membership, personality—can be singled out as the determining factor in the child's prejudices.

The early age at which prejudices are acquired, the basic similarities in prejudices at the various age levels studied (5 to 8 years), and the increase in frequency and strength of prejudices with age should challenge educators. The persistence of the point of view in professional literature (and the assumption held by laymen generally) that prejudice emerges for some magical reason in late childhood or adolescence, in spite of evidence to the contrary, calls for new methods of communicating findings so that they can affect school practices.

Exploration of personality variables, though limited in this study, appears to confirm the viewpoint that the prejudices and values of the child are related to his specific personality needs. The same prejudices may serve different needs and arise from different social-psychological circumstances for different children.

The early age at which patterns of prejudice are communicated to children suggests that prejudices of parents and other adults are highly ego-involved and are interwoven with many relationships and events in family life and daily experience.

The basic similarity of children's stereotypes and feelings about groups from one locale to another emphasizes the prevalence and strength of group antagonisms in our national culture. [p. 182]

EXPERIMENT IN INTERCULTURAL EDUCATION

[The "change experiment," which made up the concluding months of the study, was carried out in four city schools comprising quite different neighborhoods. One was an all-Negro school; another was in a neighborhood of considerable Catholic-Jewish conflict. Most of the families were of the lower-middle income level. There were 101 children in the study, ranging in age from five through eight. Four of the teachers from the study group were the experimental teachers in this phase of the Project.]

The problem of the experiment was to study the effects of teacher philosophy, methods, and teaching materials in developing attitudes and behavior in children. One experimental condition was designed to support democratic intercultural values, the second to maintain or foster group prejudices common in our culture. . . .

The essential characteristics of each philosophy were outlined and discussed with the experimental teachers so as to help them learn to differentiate these values and apply them consistently in the experimental sessions. While it was not intended that the teachers express precisely the values described, it was intended that the teachers' conduct in the experiment, as well as the prescribed content, methods, and materials, be consistent with and related to these values. [p. 232]

. . . Since all of the children from a given school came from the same classroom, they were all exposed to the same school influences except for the experimental sessions. There were in the total experiment four Y groups, four X groups, and four control groups. The experimental groups met one hour twice a week, outside the classroom, over a period of seven weeks.

(In order not to disrupt classroom routine any more than necessary, the entire class was organized into four "clubs," the three already described and a fourth made up of all the children in the class who were not included in the studied groups. During the hour when the first experimental group was out of the classroom, the teacher conducted a "club" session in the control group in the classroom, and the rest of the class did regular school work. The club sessions had nothing to do with intercultural education and were intended merely for purposes of morale for children not in the experiment. The content of these club sessions was usually arts or crafts of some kind and gave the children an opportunity to have a closer relationship with the teacher by virtue of the smaller size of their group. The next hour, when the second experimental group was out of the classroom, the first experimental group and the control group did regular school work while the teacher had a "club" session with the children not in the experimental or control groups.)

There were four experimental teachers, one from each of four Project schools (not then or previously a classroom teacher of the experimental children). The same leader conducted one X club and one Y club. This served to hold constant such variables as teacher personality and skill and was used as a change

---

The two experimental variables

The X teacher	**The Y teacher**
1. Believes in democracy.	1. Believes in democracy.
2. Sees as the goal of a democratic society the development of each to his fullest potentialities.	2. Sees as the goal of democratic society the development of each to his fullest potentialities within the limits set by society.
. . . .	. . . .
4. Sees the world as being made up of many kinds of people and enriched by this diversity.	4. Believes that conformity would help to solve many social problems. Differences in people, mores, beliefs create difficulties. Believes that the teacher can help children of all groups by teaching them to conform to the majority group behavior, beliefs, attitudes.
5. Is aware of conflicts in the world. . . . Feels that one of the basic causes of conflict in the world today is inequality (social, economic, political, etc.). To reduce inequality, more and more groups, regardless of their group belonging, should have opportunity for their maximum development.	5. Is aware of conflicts in the world and recognizes the intergroup character of those conflicts. Sees as their cause the unwillingness of groups to accept their predetermined status. . . .
6. Believes that in the United States we do not now have complete democracy or the same degree of democracy for all; . . .	6. Believes that in the United States we have achieved a democratic society, and would defend the democratic rights which we have achieved. . . .
7. Sees a need to apply these values about the world and the United States to the classroom situation.	7. Sees a need to apply these values about the world and the United States to the classroom situation.
8. . . . considers important in the classroom:	8. . . . considers important in the classroom:
. . . .	. . . .
b) that group membership of a child is often directly related to his personality needs, and, therefore, to learning;	b) that all children, regardless of group membership, should be treated alike; however, her own beliefs in her racial, environmental, or cultural theories would condition her against equal treatment of children;
c) that children need to feel accepted, regardless of their group, and as group members;	c) that differences which children bring with them to school because of group belonging should be minimized, if not ignored; . . .
d) that they need to accept themselves and their own group, and others and their groups, . . .	d) that children need to learn to appreciate that our country is better than others; . . .
e) that children can learn to see the change as growth—inevitable, normal, desirable;	e) that children can learn to prefer the way things are and should be skeptical, if not rejecting, of anything different; . . .
f) that children can learn to appreciate and value individual and group differences;	
g) that children can learn how it feels to be the other fellow;	
h) that children can correct in school the misconceptions, stereotypes, myths they learn outside of school;	
i) that children can be helped to see that all people have the same basic needs.	
This set of values represents an evolving philosophy sometimes called "cultural democracy" or "cultural pluralism."	This set of values represents a static philosophy sometimes called "melting pot" or cultural monism.

technique with the teacher leaders. The effect of playing two essentially incompatible roles upon teachers' attitudes and social sensitivity was an important part of the experiment on changing teacher attitudes. [p. 237]

. . . the experimental content for the X clubs was planned on the following premises: (1) if children are to accept or reject persons on their merits and themselves be similarly treated, then group membership of persons must be acknowledged and accepted also; (2) this is possible when group membership (a) is viewed without prejudice or misconception, (b) does not determine one's status per se, (c) is not a topic which is taboo and avoided. . . .

The experimental content for the Y clubs, on the other hand, was intended to maintain or foster the group prejudices which the children had already acquired. To do this, situations had to be provided in which (1) group membership and its cultural content are ignored; (2) pre-established norms serve as the guide for the conduct of all; (3) the way "things are" is preferred while variations which are different from established tradition are rejected; (4) differences are to be regarded, at least by inference if not explicitly, as inferior per se to "our" way in "our" country. . . .

The following conditions were created to foster learning in both experimental clubs.

1. A democratic, permissive atmosphere. The leader attempted to create in both clubs the same kind of atmosphere, i.e., one in which the children could derive satisfactions from the content and in relations with other children in the group. However, the Y teacher was not supposed to recognize the factor of the children's group membership and its relation to emotional needs or social adjustment.

2. Repeated exposure in both clubs to experiences in which values supporting good group relations or poor group relations were present.

3. Teacher values on human relations issues were made explicit: in both clubs the teacher took a stand on group issues consistent with the role she was playing.

4. Some of the learning situations were imbedded in deeply personal contexts, such as family living, mother-child situations, family customs and observances; in other situations intergroup learning was linked with that which is familiar to the child—his story books, his play, his playmates.

The neighborhood was chosen as the curriculum area for the experimental material for both clubs. (It is frequently the context if not the theme of first- or second-grade social studies.) The neighborhood was particularly suitable for the purposes of this experiment since it was within the first-hand experience of the children and offered a good possibility of interpretation from either the X or Y point of view. How people live, the work they do, the way they celebrate holidays, worship, get along with neighbors, etc., were learned through real and make-believe trips, stories, recordings, dramatizations, parties, painting pictures, meeting people of their own or other neighborhoods. . . .

. . . The Y content was in the same general direction of the children's previous social learnings and did not require "unlearning." It was less sharply directed at specific groups than at status relationships of groups. The Y leader was not concerned about the factor of the children's own group membership. The rationale of content and method, unlike X, remained throughout substantially the same—to help children to adjust to the dominant culture pattern, ignoring for the most part the existence of other culture groups, or rejecting some of them. . . . [pp. 240-242]

[Three of the thirteen club sessions are described below.]

Experimental session no. IV

X	Y
Experimental objectives	**Experimental objectives**
To extend the interest children already have in work process to the persons who do the work.	To encourage children's interest in work processes.
To continue to give the children experiences which illustrate that all kinds of work are important.	To help them acquire information about certain work processes.

To continue to help children perceive that the neighborhood includes people of many culture groups.

To continue to challenge the children's stereotype of the Jew.

Prescribed content

Before the neighborhood walk:

1. Play a game which the children select.

2. The teacher states the purpose of the neighborhood walk: to see the many different kinds of work people do in the neighborhood.

On the walk:

3. The children's attention is directed by the teacher to the variety of work and workers, to the interdependency of work and workers, as well as to the fact of cultural diversity.

The teacher creates opportunities for children to talk with workers about what they do and helps to establish a friendly situation.

During the visit:

4. They visit one particular shop for 20 minutes or half an hour, while some aspect of the work done there is explained to the children. The teacher introduces the children to Mr. ——. She communicates her friendly acceptance of him to the children in manner and speech. By prearrangement, Mr. —— then tells about some aspect of his work. He does this simply, briefly, on the children's level of comprehension. (For example, if they visit a pharmacy, the pharmacist explains that he helps the doctor to help sick people get well. He shows how he mixes different kinds of liquid or powder medicine from the doctor's prescription.) The teacher encourages the children to ask questions and asks some herself. For example—"Why do you wear a white coat?" "How many prescriptions have you filled since you have had this store?" etc.

The teacher and the children thank their host and say goodbye.

Rationale of content

The game helps make the transition for the children from the classroom to the club. It is intended to increase their acceptance of the club. (1)

The teacher's values are communicated to the children. The teacher calls the children's attention to all kinds of workers lest they assume that only some kinds are important. She shows accepting and friendly attitudes to all kinds of people employed at all kinds of work. She encourages the children to be friendly by the way she herself greets and talks with people. She stops to watch or talk to workers who have diversified skill, appearance, speed, etc. She points out evidences of cultural diversity in the neighborhood by identifying these specifically and with an accepting attitude. (2) (3) (4)

The teacher has preplanned the visit to a neighborhood shop to insure the maximum interest of the children (she helps preplan what they will be shown) and to insure a good learning experience (she establishes in advance friendly relations with the neighbor who is to be their host). She chooses carefully a person and occupation that contradict the Jewish stereotype. Throughout the visit the teacher helps the children to be not only interested in the work process, but to be interested in and to feel friendly toward the worker. This she does by demonstrating a respect for him and for his work. (4)

To continue to help them develop attitudes of respect for "important" kinds of work . . . carried on in their own neighborhood.

Prescribed content

Before the neighborhood walk:

1. Same as X.

2. Same as X.

On the walk:

3. The attention of the children is directed at the jobs that the teacher approves and away from any kind of work which she holds in low esteem. Information about the work process is stressed. Social relations with the people who are working are discouraged beyond the politeness level.

During the visit:

4. They visit a particular shop as in X. The teacher does not take time to establish friendly relations between Mr. —— and the children, and minimizes the human factor in the total experience. The teacher encourages the children to ask questions after Mr. —— has explained some aspect of the work process as in X. She asks the kinds of questions that get at facts and the purely impersonal factors. She indicates the high regard she has for this kind of work.

Rationale of content

Same as in X. (1)

The teacher's values are communicated to the children. Work is a means to social status, and is desirable or undesirable depending on whether it adds to or diminishes one's prestige. The teacher points out the advantages of "better" kinds of work. She discourages the children from assessing people on their merits by ascribing to people fixed roles and characteristics predetermined by the kind of work they do. On the other hand, she shows interest in a work process apart from its social importance and without acknowledging the importance of the persons who do the work. (3) (4)

Arrangements made in advance of the club visit are to insure that the children will learn about this process (she helps preplan what they will be shown), and that they will come to have respect for important kinds of work. (For example, if they visit a store or factory the merchandising or manufacturing process is explained on a simple level. Stress is placed on speed, volume, cleanliness, efficiency rather than on the benefits to other people of the product or service.) (3) (4)

The children are expected to follow the teacher's lead and ask questions on a purely informational level. It is expected they also will become impersonal in their relations with the workers in an effort to emulate the teacher and to behave appropriately. (3) (4)

Experimental session no. IX

X

Experimental objectives

To provide a situation in which (a) conflicts over color differences are acknowledged, (b) good human relations in spite of color differences are also acknowledged, (c) analysis of club experience leads to the generalization that the former is not desirable and the latter is possible.

Prescribed content

1. The teacher plays a recording about white and brown rabbits. In the story conflict over color difference develops.

2. The teacher encourages the children to react to the recording.

3. If the children do not make the connection between the rabbits and people, the teacher does. She then makes her own values explicit—what matters is not one's color but what kind of people or rabbits we are. . . .

4. The teacher announces that their request for another interschool party has been granted. She tells them that there will be a different special guest this time who will lead them in games. They discuss decorations for the party and agree to use all their club paintings.

Rationale of content

The recording is used as a device to stimulate a discussion of color difference on a nonemotional, impersonal level first. In the story the animals become divided and hostile because color difference is seen as good or bad per se.

The children are helped to see the fallacy for the rabbits and the teacher uses this as a step to pointing out the same problems for people. She encourages them to acknowledge ways in which people use color differences to label good or bad.

The teacher helps them to draw from their party experience the generalization that people can get along well together in spite of differences. She reverts back to the rabbit recording to illustrate how silly and sad it was when they permitted differences to make them unfriendly. (2) (3)

The plans for the next party again are made with the help of the children so that they will want to make it successful. (4) (5)

Y

Experimental objectives

To teach the children to feel chauvinistic about being American.

Prescribed content

The teacher tells the children about recordings of songs which she has brought for the club. "These are songs of our country," she says. "I wonder how many of them you know." Then she plays each record. (She plays it twice if the children want to sing along with the music.)

After each song the teacher asks them whether they like the song and how the song makes them feel. She encourages them to express any feelings they have about each song. She also tries to discover what meaning if any the words or phrases have for the children. The teacher summarizes the theme of each song in simple, direct language after they've discussed its meaning. For example, "America is a land of liberty for all. Liberty means freedom. We are free because we are Americans. Americans have what other people don't have." Teacher asks what people in other countries don't have. Teacher illustrates. Everyone who is American has plenty of food, clothing, nice houses to live in, etc. In other countries, people don't have these things that we have. In other countries people are hungry and poor, etc.

The remainder of the club time is used for painting and clay or blocks.

Rationale of content

The dignity and importance that surround the teacher's announcement of "songs about our country" sets a mood for the listening.

The songs are not exactly unfamiliar, since most of them have been heard on the radio, in the movies, in the assembly hall. The fact that the teacher expects that the children will know the songs captures their momentary attention and interest.

The solemn manner in which the songs are rendered stimulates the children to respond with similar seriousness and awe. This is further heightened by the teacher's interpretation of each song's theme. Even when her explanations are not fully understood, a moral tone is conveyed. Along with this they hear the teacher repeatedly say: America is the best country in the world, and that they should be proud to be American. This makes them feel superior, specially important and good. They feel good about the songs too.

Experimental session no. XI

X

Experimental objectives

To have the children perceive "America" as the sum of many neighborhoods and "Americans" as all the people in the neighborhoods.

Y

Experimental objectives

To teach about children of other lands, how different their life is from ours.

To teach appreciation of our way of life.

Prescribed content

1. A very large sheet of paper is tacked up on the wall. The teacher tells the children that they are going to paint a big picture together. She asks them what kind of a picture they might make. After many suggestions are made, she proposes that they arrive at an agreement about the subject of the picture by listening together to a song and getting an idea from that.

2. The teacher plays a recording of a familiar and popular song about America. They all join in the singing of it. The teacher then asks them what the song is about. They agree to make a picture on the same theme—"Our country, the place where we all live."

The teacher and children try to define "America," our country, further. It's where we live; it's all the people and places; it's this neighborhood, and other neighborhoods too with different people . . .; it's all the rest of Philadelphia and all the other places and neighborhoods in America.

Children suggest places that are America beyond the neighborhood.

Teacher asks: Could we put into our picture the people we met in our neighborhood when we took trips? Whom have we met?

Children supply— Dr. ——, Mr. ——.

Teacher asks them about people they've met from different neighborhoods too.

Children tell about visiting a school, meeting children's mothers, parents, etc. (Teacher supplies additional persons' names but preferably mentions situations that recall persons so that children do the naming.)

Teacher then sums up: We've met many people who are Americans, haven't we? If we made our picture all about America we could put our neighborhood in the picture—all the people we've met and the places we've been to. We could show the different kinds of work we saw people do.

3. They plan what they want to put into the picture and who shall be responsible for the various parts of it.

The teacher suggests that they include the days we celebrate. They discuss holidays that Americans celebrate in the wintertime (Thanksgiving and Christmas), and the symbols or appropriate ideas to represent these holidays. The teacher asks if they know another holiday when people also give gifts near Christmas time. If the children don't know the teacher explains: It's a Jewish holiday called Hanukkah. The whole family gives presents on this holiday and they have a party and eat good things. Hanukkah is a nice holiday. It comes about the same time of year as Christmas. We'll find out more about it next club time so we can put it into our picture, too.

4. The children return to the planning and sketching in with chalk. A few children begin painting.

5. At the end of club time, the teacher announces that next time they'll visit a neighbor, Mrs. ——, to learn more about how the Jewish holiday Hanukkah is celebrated.

Rationale of content

The mural is an effort at group summary of the club experience. It gives the children an opportunity to work together in an art medium through which they can express values they've learned. (1)

Prescribed content

1. A very large sheet of paper is tacked up on the wall. The teacher tells the children that they are going to make a big picture together—about children of other lands. She suggests that first they find out about how the children in other lands live, what they look like, etc.

2. They look at pictures, one country at a time, the teacher asks the question "Guess what children these are?" The pictures show children in a variety of settings and activities. The teacher guides the children in identifying those characteristics most "typical" for each country. (In a sense this follows from the nature of the pictures themselves, for they emphasize differences in the clothes, houses, food, family life, and customs of each ethnic or national group—the Dutch, Africans, Swiss, English, Mexican, and Japanese.) She also encourages comparison of "their" customs and "ours."

3. After looking at all the pictures the children decide on who will draw each country into the big picture; how each shall be represented so that national characteristics are obvious.

Rationale of content

Same as X. (1)

The photographs of children of other countries in the home, family, and neighborhood setting put the subject matter to be learned in a context which the club children can understand.

The recording is a device which the teacher uses to stimulate interest and to focus the attention of the group. It makes her imposition of the subject she wants them to paint less difficult for the children to accept. (2)

The teacher helps the children to define "America" in terms of their own club experience with the neighborhood. (America is many neighborhoods.) (2)

Their decisions as to whom to paint into the picture reflect the values they've learned in the club and to what extent they accept these values. (3)

The teacher again makes her own values explicit by suggesting the inclusion of a Jewish holiday. She shows knowledge about the mores of neighborhood groups beyond the dominant majority culture and thus stimulates the children's interest at the same time that she increases the prestige of the Jewish holiday by including it among other holidays celebrated by Americans. (3)

Attention is directed at differentiating each ethnic group from the other. So that this may be done with facility, variations within each country are ignored; a group stereotype is sought and although similarities in family relations and children's interests and needs are implicit in the pictures shown, these are also ignored by the teacher. (2) (3)

The American way is used as the norm, other cultures are seen as deviations and less desirable.

CHANGES IN CHILDREN'S INTERCULTURAL ATTITUDES AND BEHAVIOR

Experimental predictions

From the fundamental hypothesis of the experiment, namely, that the attitudes and values of the teacher-leader are communicated to the children, the following predictions were made:

1. Children in the X experimental groups would show an increase in the expression of accepting attitudes toward various groups, and an increase in the expression of democratic values in human relations;
2. Changes would be evident in both the test responses and in club behavior;
3. Children in the Y experimental groups would maintain their initial attitudes of prejudice or would move toward prejudiced attitudes;
4. Children in the control groups would remain relatively constant between the two testings, and changes which occurred would not be consistently in one direction.

By its very nature the experimental situation touched only a small part of the subjects' lives. The intercultural attitudes which it attempted to alter had undoubtedly developed over a relatively long period of time and served basic personality needs. The daily experiences of the children furthermore could be expected to exert strong continuing pressures toward conformity to community and parental standards. Many of these extraexperimental influences on the children were in the direction of the Y philosophy—as evidenced by initial attitude measurements of the children as well as data on the parents.

To be effective, then, the experimental influence of X clubs had to weaken the psychological forces maintaining the children's initial prejudiced attitudes, and they had to be stronger than the environmental influences which reinforced them. In the Y clubs the experimental influences had to reinforce already prejudiced attitudes and in other cases they had to overcome factors creating accepting attitudes.

A summary of the results obtained

The experiment had a measurable effect upon the attitudes and behavior of the children in both the X and Y clubs. The two experimental groups moved in the expected directions from the beginning to the end of the experiment and differed significantly from one another in reactions to group differences. They also differed from the control group in most instances. . . .

Changes in the children's attitudes were measured by comparing their test responses before the experiment began with their responses in the second and third weeks following the experiment; by analyzing their reactions in club sessions; and by analyzing their recall of the club experience. [pp. 293-294]

[The five charts on pages 206-208 summarize the comparisons that were made.]

CHANGES IN THE FOUR TEACHERS

[Although, as Project members, the teachers had become sensitized to children's group attitudes and were anxious to change them, implementing these feelings did not come easily. In rehearsing their roles in the early club sessions they were uncomfortable in the X role and felt at home in the Y role, which resembled the way they had been teaching. Before long, however, tension and frustration began to mount, and all four at some time reached an emotional crisis when they were close to abandoning the whole project. After this point their problems seemed to diminish, and they began to champion the X role and to feel increasingly uncomfortable in the Y role. They began to see the embarrassment the Y stereotypes were causing the minority-group children and to wonder how they could undo this harm. The authors regarded it as quite unlikely, if not impossible, that they would ever be able to go back to their former ways of teaching.]

Direction of change in attitudes of each child toward Negro, Catholic, Jewish, and American

(Percentages)

Direction of attitude change	X clubs (N = 35)	Y clubs (N = 33)	Control clubs (N = 33)
On Negro			
Toward X club values	63	21	15
No change	29	24	82
Toward Y club values	9	55	3
On Catholic			
Toward X club values	26	9	9
No change	49	52	91
Toward Y club values	26	39	0
On Jewish			
Toward X club values	54	6	18
No change	26	33	79
Toward Y club values	20	61	3
On American			
Toward X club values	37	9	15
No change	49	42	73
Toward Y club values	14	48	12

Perceptions of Negro

Experimental and control groups on pre- and post-tests (Percentage of children)

	X (N = 35)		Y (N = 33)		Control (N = 33)	
Responses toward Negro	Pre	Post	Pre	Post	Pre	Post
Friendly, accepting ("I like colored," "They're nice," etc.)	9	40	30	24	21	12
Unfriendly, rejecting (total*)	57	29	55	55	39	36
"I don't like colored"†	6	3	0	9	3	9
"They kill, stab, fight, etc."	46	17	42	33	30	24
"They're dirty, dumb, trashmen, etc."	9	11	18	12	9	9
Description of skin color	83	14	61	42	61	42
Live in different neighborhoods	0	6	3	0	0	6
Are poor	0	6	0	0	3	3
Don't know, irrelevant responses	9	11	12	12	9	0

* A child who gives more than one kind of hostile response is listed for each of his specified types of hostility but only once in the total of rejecting responses.

† This category includes derogatory name-calling when it occurs in a context indicating that the words used imply hostility.

Perceptions of Jewish

Experimental and control groups on pre- and post-tests (Percentage of children)

Responses toward Jewish	X (N = 35)		Y (N = 33)		Control (N = 33)	
	Pre	Post	Pre	Post	Pre	Post
Friendly, accepting ("like us, Americans")	6	11	9	6	3	6
Unfriendly, rejecting (total)	49	26	48	59	45	36
Stereotypes of difference ("They talk funny, look different")	20	31	12	30	18	18
Different, strange	14	9	15	9	12	0
Stereotypes of hostility ("They are bad, stingy, selfish, cheaters")	9	6	18	6	9	12
Hostility based on religious precepts ("They don't go to church, they killed Jesus")	3	11	0	6	0	0
Not American	0	0	0	12	6	6
Have stores, make money	14	0	6	3	9	3
Identification of persons	9	6	0	0	0	0
Accurate descriptions of or reference to customs	17	43	18	21	9	6
Don't know, irrelevant responses	29	29	36	24	45	45

Perceptions of Protestants

Experimental and control groups on pre- and post-tests (Percentage of children)

Responses toward Protestant	X (N = 35)		Y (N = 33)		Control (N = 33)	
	Pre	Post	Pre	Post	Pre	Post
Friendly, accepting ("They are nice, accepting identifications of persons)	9	11	9	9	12	9
Rejecting ("They are bad, not as good as Catholics")	9	6	3	3	0	3
Antagonism expressed between Protestant-Catholic ("Protestants and Catholics are against each other")	3	0	0	0	3	0
Another religion, compared with Catholic	0	0	6	6	0	0
Protestants are white, American	9	0	9	6	0	9
Protestant is a church	9	26	36	21	21	6
Protestant is a school	0	3	9	9	3	6
Don't know	60	54	51	48	61	67

Perceptions of Catholic

Experimental and control groups on pre- and post-tests (Percentage of children)

	X (N = 35)		Y (N = 33)		Control (N = 33)	
Responses toward Catholic	Pre	Post	Pre	Post	Pre	Post
Friendly, accepting ("They are nice," accepting identification of persons)	0	11	0	12	9	12
Rejection of Sisters	3	14	3	21	3	6
Catholics are white	3	9	0	9	3	15
Catholics fight Jews	0	3	0	0	0	0
Catholic is a school	37	34	27	48	36	21
Catholic is a church	31	46	45	29	27	42
Description of customs (crucifix, rosary)	26	29	18	12	15	6
Don't know	17	11	21	12	27	30

INTERPRETING THE SELECTIONS

Barron article

1. How did the author establish the fact that independence of judgment is linked with originality?

2. How were "creative" subjects chosen for this study? Do you think the method of selection was valid?

3. What were the author's findings about originality and imagination?

4. In light of this article, should "good adjustment" as a teaching goal be reëxamined?

5. Do you see any flaws in the research design described in this article?

Torrance article

1. What relationship have the Minnesota studies found between IQ and creativity?

2. Are there other factors that might explain the differences between boys and girls in creative endeavors?

3. Do the findings reported in this study support those in the Barron article? How do they differ?

4. Discuss creativity as a "battle against conformity to behavioral norms."

Piaget article

1. Is children's increased ability to use mathematical concepts as they grow older due to maturation or to learning from experience with numbers or both?

2. The author states that the experiments "teach us a number of lessons about human knowledge in general." What do you think some of these lessons are?

3. The experiments in this study are concerned with what children do naturally. What do they have to say about "readiness"? What are the implications for kindergarten and first-grade teachers?

4. Explain what is meant by the "kinship between psychological construction and the logical construction of science itself."

Trager and Yarrow article

1. Summarize the information that is contained in each of the last five charts.

2. What hypotheses could explain the fact that prejudice toward "Catholic" among members of the X Club did not change as the other stereotypes did?

3. How could experiences comparable to those in this study be given to teachers-in-training as a regular part of their preparation for teaching?

4. In the parent interviews most parents expressed strong rejection of other groups, yet also expressed the feeling that the schools should promote intercultural education. How can this contradiction be explained? What *is* the school's responsibility here?

5. Have X values or Y values been more prevalently taught in the schools you have attended?

10 RETAINING AND USING LEARNING

Repetition and Learning

Irvin Rock[1]

Association and repetition are basic to many learning theories, past and present. Is drill necessary to learning? The selection below attacks the almost sacred educational belief that "practice makes perfect." The author has performed a number of experiments which point to the conclusion that we form mental associations immediately. The role of repetition is to help us retain what has already been learned.

Every school child, past and present, knows the pain and humiliation of learning by drill and repetition. In the prevailing opinion of teachers and psychologists this procedure is inescapable. Rote learning—the forming of mental associations between two (or more) initially unrelated entities—is held to be akin to the process of conditioning in laboratory animals that associates the buzzer and the flow of saliva.

On the other hand, we fix many associations in our minds with ease. We associate a name with a face, a word with its meaning, and so it goes with much of the "by-heart" learning that attends daily life. Many psychologists hold that all learning is by association. Such generalization is probably unwarranted. School children also know the pleasanter experience of learning by understanding and thinking, and it can be argued that this involves something more. Nonetheless it must be conceded that understanding requires the forming of associations and that these associations also often seem to form upon the instant. Why then does some rote learning call for drill? Perhaps we can go so far as to ask whether repetition is ever really necessary to learning.

It is an ancient tradition that exalts drill as a method of learning. Of all the many notions from the past, two in particular have a firm place in modern learning theory. One of these is the principle of contiguity: we can associate two things only if we experience them at approximately the same time. The second is repetition: we form associations only through repeated experience. Various schools of psychology have put forward other factors in learning, such as motivation (the intention or "set" to learn), reinforcement (the presence of reward or punishment) and grouping (whether or not

---

[1] from Scientific American, Vol. 199, No. 2, Aug. 1958, pp. 68-72. Reprinted by permission of author and publisher. Copyright © 1958 by Scientific American, Inc. All rights reserved.

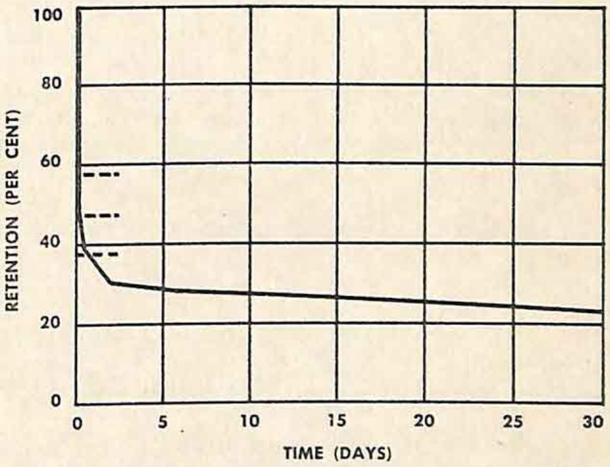
the items to be learned are perceived as a unity). Different theories assign different weights to these additional factors, but all agree on the central importance of contiguity and repetition in the forming of associations.

Contiguity is obviously the *sine qua non* of learning. We associate thunder and lightning, for example, because they occur close together. If they were separated by several hours, we would almost certainly not associate them unless investigation had taught us that they were related. Even when we associate a past experience with a new one, contiguity is at work. We evoke the memory of the past experience (or its presumed physiological "memory trace" in the nervous system) contiguously with the direct sensation of the new experience.

Repetition acquired its equally paramount position in modern experimental psychology thanks to the work of the pioneer German investigator Hermann Ebbinghaus. He published a now-classic monograph on the subject of learning in 1885 in which he described experimental procedures that are the prototypes of those used today. Ebbinghaus made up random lists of nonsense syllables and set out to learn them, keeping records of his progress. He used nonsense syllables to be sure that his items of learning would have no prior associations attached to them. Syllables of this sort are still widely used by experimental psychologists. Ebbinghaus would read them aloud, over and over, testing himself after each reading by trying to recite the entire list after reading only the first syllable. When he could do this without error twice in a row, he considered the list learned. By this procedure Ebbinghaus explored such problems as the connection between length of lists and the number of repetitions required to learn them, and was able to measure also the rate at which he forgot what he had learned. From the latter experiments he was able to plot the first "curve of forgetting" [*see illustration on this page*].

Ebbinghaus considered repetition basic to rote learning, and almost all psychologists and educators today agree with him. The accepted theory holds that a single experience of two contiguous items establishes only a partial connection between them in the nervous system, one that the learner cannot as yet articulate. Additional experience strengthens this connection to the point where the subject, upon exposure to one item, can respond with the other.

Now repetition often does seem necessary to learning; this is no doubt the genesis of the theory in the first place. In the typical laboratory experiment most subjects require repeated exposure to the list of items to be learned.



Curve of forgetting shows that material is forgotten most rapidly soon after learning. Broken lines show *(top to bottom)* retention after 20 minutes, one hour, and nine hours.

On the other hand, the repetition theory fails to account for the many associations in daily life that seem to be established by a single experience. One explanation of the meaning of a new word is often enough (this is particularly the case with children, who learn new words all the time). One introduction to a person often suffices to teach us his name. Even in laboratory experiments most subjects, though they require many repetitions to learn the entire list, learn at least a few items on the first trial. These apparent exceptions to the principle of repetition suggest that we might well reexamine the principle itself.

Let us, for the sake of argument, adopt the contrary hypothesis and declare that repetition has nothing to do with the forming of associations. We will explain the necessity for repetition in psychological experiments not on the ground that associations are built up gradually but simply because the list is too long to be

1	2	3	4	5	6	7	8
GAC QET	**BIH XIR**	**CEZ MUN**	**TOF LAH**	~~**GEY NUR**~~	**KAR WEH**	**DUP TEZ**	**FAX SOQ**
BIH XIR	~~**FAX SOQ**~~	**BIH XIR**	~~**KAR WEH**~~	**FAX SOQ**	**TOF LAH**	**GAC QET**	**DUP TEZ**
TOF LAH	**GAC QET**	**TOF LAH**	**DUP TEZ**	**CEZ MUN**	**DUP TEZ**	**KAR WEH**	**GAC QET**
FAX SOQ	**CEZ MUN**	**DUP TEZ**	**GAC QET**	**TOF LAH**	**GEY NUR**	**FAX SOQ**	**KAR WEH**
GEY NUR	**TOF LAH**	**KAR WEH**	**FAX SOQ**	**GAC QET**	**BIH XIR**	**GEY NUR**	**CEZ MUN**
DUP TEZ	**GEY NUR**	**GEY NUR**	**CEZ MUN**	**BIH XIR**	**FAX SOQ**	**TOF LAH**	**BIH XIR**
KAR WEH	**DUP TEZ**	**FAX SOQ**	**BIH XIR**	**DUP TEZ**	**GAC QET**	**CEZ MUN**	**GEY NUR**
CEZ MUN	**KAR WEH**	**GAC QET**	**GEY NUR**	**KAR WEH**	**CEZ MUN**	**BIH XIR**	**TOF LAH**

1	2	3	4	5	6	7	8
POY CES	QOZ YAT	BOP YIT	**QAT BUP**	ZEB DUF	YUL TAJ	**YUR FEG**	LUZ VAB
KOB RUV	XAN NAC	~~**QOZ YAT**~~	YUR FEG	**QAT BUP**	NUV DAK	**YUL TAJ**	**FEC RIQ**
QAT BUP	CEG YOW	**JEP BOZ**	KIB JUY	KAM JIR	**YUR FEG**	JAL MEP	**KOR GOP**
WEM NIR	**JEP BOZ**	NOH FEJ	**FEC RIQ**	**YUR FEG**	**QAT BUP**	**QAT BUP**	**QAT BUP**
FAH VAQ	ROF FAZ	LUJ ZEN	LEQ GEZ	**FEC RIQ**	**FEC RIQ**	**KOR GOP**	**YUR FEG**
JEP BOZ	YOB FAP	**QAT BUP**	SIQ HAX	**JEP BOZ**	**KOR GOP**	**FEC RIQ**	**YUL TAJ**
ZAM VOM	**QAT BUP**	DAF VUT	TOC JEV	KOR GOP	DOJ YAF	**JEP BOZ**	NOK MIJ
XUN BEW	TIS KED	FEC RIQ	**JEP BOZ**	BOQ YUG	**JEP BOZ**	NAJ QUN	**JEP BOZ**

1	2	3	4	5	6	7	8
FAX SOQ	KAR VAQ	**JED NUR**	**POV LUB**	~~**GEY VAQ**~~	FAX SOQ	JED SOQ	KAR SOQ
GEY NUR	SOH LUB	FAH ZIM	**WOB PEQ**	**POV LUB**	**WOB PEQ**	FAX GIZ	JED VAQ
JED LUB	FAX WEH	POV LUB	SOH WEH	**WOB PEQ**	GEY ZIM	**FAH NUR**	**FAX GIZ**
WOB PEQ	~~**POV ZIM**~~	FAX VAQ	KAR ZIM	FAH NUR	JED VAQ	**GEY ZIM**	**SOH WEH**
SOH GIZ	JED NUR	GEY WEH	FAX GIZ	KAR SOQ	KAR GIZ	**SOH WEH**	**WOB PEQ**
POV ZIM	GEY SOQ	KAR GIZ	GEY VAQ	FAX ZIM	**POV LUB**	KAR VAQ	**FAH NUR**
FAH VAQ	**WOB PEQ**	SOH SOQ	~~**JED NUR**~~	**SOH WEH**	**FAH NUR**	**WOB PEQ**	**POV LUB**
KAR WEH	FAH GIZ	**WOB PEQ**	FAH SOQ	JED GIZ	**SOH WEH**	**POV LUB**	**GEY ZIM**

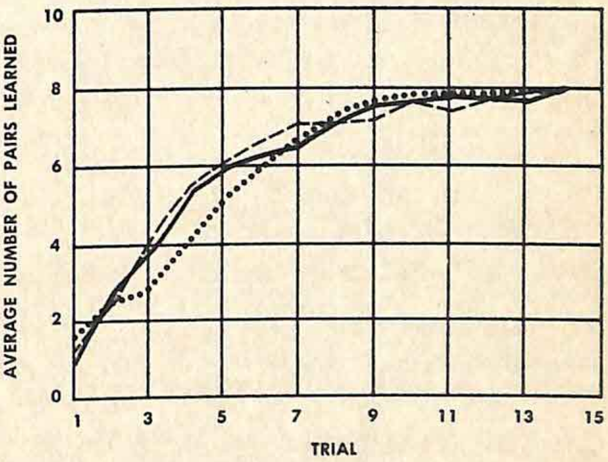
mastered on one trial. If this reasoning is correct, items on the list which are not learned do not leave behind any increment of associative strength. People should be able to learn items which they have never seen just as easily as items which they have seen but not learned.

During the past few years I have performed a number of experiments to test this hypothesis. In the first of these experiments two groups of subjects undertook to learn eight pairs of nonsense syllables. Each subject was shown the pairs in succession, and was then tested by being shown the first syllable in each pair to see if he could respond with the second. I chose this "paired-associates" technique because it seems to isolate the basic element of associative learning—the individual association—more effectively than Ebbinghaus' linking together a series of items. In both learning and testing the syllable pairs were presented in random order.

Subjects in the control group were repeatedly shown the same eight pairs until they had learned all of them—the traditional procedure in learning experiments [*see illustration on page 212*]. Subjects in the experimental group, however, were shown a changing series of pairs. Pairs which they learned on the first trial were kept on the list, but those which they failed to learn were replaced by new pairs. This procedure was followed on each trial until the subject had learned eight pairs, most of which were not on the original list. Thus these subjects had to learn their pairs on one trial or not at all: they had no chance to build up associations gradually. The control subjects, on the other hand, saw the same eight pairs from beginning to end and had the benefit (if any) of associative increments.

What was the difference in the performance of the two groups? The answer is: There was none! Both groups learned at about the same rate [*see illustration on this page*], requiring on the average about eight trials to learn eight pairs. An experiment using letters paired with numbers instead of pairs of syllables gave the same result.

Perhaps, however, the control group was under some special disadvantage as compared with the experimental group. Some control subjects, for example, instead of simply failing to learn a particular pair learned it incorrectly, recalling GAC-QET, say, as GAC-XIR. These subjects obviously had to unlearn such incorrect associations before they could learn correct ones. The experimental subjects did not have this disadvantage, since the pairs which they learned incorrectly were stricken from the list, and they could start afresh on new pairs.



Learning curves show the average progress of three groups of subjects under the different conditions charted on page 212. The control group (*solid line*), experimental group (*dotted line*) and "interchange group" (*broken line*) all learned at about the same speed.

To test this possibility I undertook a further experiment in collaboration with Walter Heimer. This time we did not strike out unlearned pairs, but reshuffled them, pairing the first syllable of one pair with the second syllable of another. For example, if a subject failed

Learning records show the progress of typical subjects in three experiments made under different conditions. In the control group (top) subjects saw new pairs of nonsense syllables (*light type*) on the first trial; these were repeated (*heavy type*) on subsequent trials, in a different order. In the experimental group (middle) only the pairs learned on previous trials (*light gray*) were repeated; unlearned pairs were replaced with new ones. In the second group (bottom) unlearned pairs had their syllables interchanged each time (*underlined*). Subjects occasionally forgot pairs previously learned (*bar*). All benefited from "overlearning" (*dark gray*) of pairs already learned; the pairs learned on early trials were remembered best after a lapse of time.

to learn FAX-SOQ and GEY-NUR the first time, or mislearned them, he might see them the next time as FAX-NUR and GEY-SOQ; if he still failed to learn them, they would be reshuffled in a different way. We thus made sure that if any partial bonds were established they would be incorrect bonds which the subject would have to overcome before he could form the correct association.

Despite this seeming further disadvantage, the third group did just as well as the other two. Moreover, almost no subjects in this group noticed the reshuffling. This fact further strengthened our conclusion that pairs which are not learned leave little if any trace in the memory.

It could be argued that the experimental group enjoyed other possible advantages that offset the absence of repetition. For example, one could say that the control group has an increasingly difficult task since the people in it are left with pairs which, for one reason or another, they find hard to learn, whereas the experimental group is confronted with new pairs of average difficulty. It is also possible that some future variation in experimental design will show that our experiments were weighted in some other way against the control procedure (although we found no such weighting in testing several designs not discussed here). But even if it could be shown that the traditional control procedure promotes faster learning, the excellent performance of the experimental groups shows that at the very least a considerable portion of learning in the traditional procedure occurs on one trial.

If associations are formed in one trial, as these results indicate, how is it that none of our subjects learned more than a few items on any one trial? To answer this question we must contend with another factor which I have not mentioned: interference.

Ebbinghaus himself discovered that the presence of a great many items in a list interfered with the learning and retention of any of them. He found that as he increased the length of his lists the time needed to learn them increased far more rapidly. A list of 10 items might require 52 seconds, or a little more than five seconds per item, while a list of 36 items might require 792 seconds, or 22 seconds per item. Interference shows up in another way in an experiment which the reader can try for himself. A subject is exposed to a number of digits and asked to repeat them back; he may be able to repeat as many as eight digits correctly. If he is exposed to nine or 10 digits, however, he will often not even get eight. As the number of digits increases beyond a certain critical point, the number of correct responses invariably decreases.

These experiments confirm a common experience of daily life. It is easy to learn one person's name in a single introduction, but most of us will remember few names or none by the time we have been introduced to the last guest at a social gathering.

Evidently, then, it was interference that kept our subjects from learning all eight pairs on one trial. This suggests that if interference is kept to a minimum (*i.e.*, if the list is short enough), no repetition will be needed. Franklyn Springfield, at the New School for Social Research in New York, has tested this deduction by a simple experiment. He pretended to be giving a lecture on memory, and held up a pair of nonsense syllables on a card as an example of those which Ebbinghaus had invented. After different intervals of time, he tested the students. Virtually all of them had learned the syllables upon this single exposure, even though he had not asked them to do so.

Do these experiments mean that repetition plays no part in learning? By no means. Though repetition does not appear to help the forming of associations, there is ample evidence that it strengthens them once they are formed. If we meet a person only once, we may forget his name a week later. If we meet him repeatedly, however, we are likely to remember his name for years. Investigators from Ebbinghaus on have found that "overlearning"—the repeated recitation of already-learned material—minimizes forgetting.

Our own experiments bear this out. The control group provides a clear case. These subjects, as the reader will remember, worked on the same list of eight pairs from beginning to end—*i.e.*, they saw each pair the same number of times. Yet when we tested them after a lapse of time they recalled the pairs they had learned during the first trials much better than those they learned later. Evidently their learning of the first pairs had been strengthened by overlearning. . .

It is undoubtedly too early to draw policy from these findings, but they do suggest a new approach to the learning of rote subjects. A teacher who is introducing the multiplication table, for example, might do well to present only a few numbers each day. She might even concentrate on one (4 × 5 = 20, for example), present it in the context of a logical analysis of why 4 × 5 does equal 20, and let it go at that for the day. If the teacher took this approach to other rote subjects (spelling, for instance), she might devote shorter periods each day to a greater variety of subjects. There may be many good, practical reasons why this sort of curriculum would be undesirable. But it would certainly cut down the drilling.

The relationship of associative learning to more complicated types of learning, such as problem solving and learning by understanding, is still far from clear. But our finding that associations form instantly rather than gradually throws an interesting light on this question. Many psychologists (notably those of the Gestalt school) have stressed the importance of insight—the sudden flash of understanding often called the "aha" experience. Sudden insight may well be related to the sudden formation of associations. Indeed a number of experimenters have found that associative learning often involves the sudden discovery of some mnemonic device for linking together two items by means of some intermediate idea. This closely resembles the process by which we solve problems. . . .

The Experimental Background of the Problems of Learning

Albert Rapp[2]

A well-written and carefully documented history of the theories and research in the area of transfer of learning is presented in this selection. The author begins with the doctrine of formal discipline, proceeds to the theory of identical elements, and then analyzes the theory of generalization. He concludes with a survey of questions about the learning process for which we simply do not have definite answers yet.

The underlying theory of education down to the beginning of the twentieth century was that known as the doctrine of formal discipline. This theory assumes that the mind is a single organ, and that by vigorous study and application its "fibers" may become toughened like a muscle, and as a direct result, one's "faculties" of memory, reason, attention, etc. may be strengthened and increased.

It was upon this foundation that the structure of the curriculum was raised and supported; and the curriculum therefore contained generous quantities of "disciplinary" subjects, such as Latin, Greek, and mathematics.

---

[2] from the **Classical Journal,** 1945, 40:467-480. Reprinted by permission of the author and The Classical Association of the Middle West and South, Inc.

This theory has been abandoned. But the story of its collapse and of the continuing effort to provide a scientific basis for learning, and the implications of some of the later experiments, are required reading for every classicist and every educator.

In 1890 William James, one of America's great teachers, was Professor of Psychology at Harvard College, where for 18 years he had been teaching physiology, philosophy, and psychology. James, like Socrates, was so big that he belonged to no school, but several schools may be said to have grown out of him. He anticipated in some respects both behaviorism and *Gestalt-psychologie*, though they are poles apart. He disliked psychological experimentation and felt it had certain weaknesses; yet his experiment on training the memory is considered the forerunner of all modern research on this subject. And, incidentally, James may be considered to have paved the way for American functionalism in modern education, though he himself was too broad to be classifiable in this school.

In 1890 Professor James decided to test out his suspicion that there is no such thing as "training the memory"—if the memory is good, it's good, but no amount of practice will make it better. This is believed to be the first experiment dealing with the problem of learning, or "transfer of training," as it is more technically called.

Now, whether there is a transfer of training from one field to another or whether there is not is a question that is vital to every person connected with education. Whole curricula hang in the balance, and others still hang; whole schools, I might add, and colleges. There is no corner of the world of education that might not be affected by the results of such an experiment.

Professor James started his classic experiment by memorizing 158 lines of Victor Hugo's poem "Satyr" in the course of eight days. The time required was $131\frac{5}{6}$ minutes. Then, for practice in memorizing he turned to Milton's *Paradise Lost*. He spent 20 minutes a day for thirty-eight days in memorizing Book I. The question now was: Did the practice obtained from memorizing Book I of *Paradise Lost* improve his ability to memorize French poetry? So, as the final part of the test he went back to Victor Hugo's "Satyr." How long *now* would it take him to memorize a second 158 lines? (The last time he had taken $131\frac{5}{6}$ minutes.) He proceeded to work on the second 158 lines, and when he came to check the result, he found it had taken him 151½ minutes. *Longer* than it had taken him before!

This didn't make any sense at all, unless we are to conclude that learning renders one increasingly stupid and progressively more unteachable, and James explained the results by saying that he was all fagged out at the time of his final test. Nevertheless, one may be excused for wishing that Professor James had not been fagged out in that one week of all weeks, so significant in the history of American education.

But James repeated the experiment on four students, using the same general method but different poetry. The results were inconclusive. Three showed slight improvement, one showed deterioration.

One of Professor James' students at Harvard later was a young lad by the name of Edward L. Thorndike. Thorndike in these days was spending his time experimenting on the behavior of chicks in a maze. Still later he went to Columbia and earned his Ph.D. (1898). In 1891 Thorndike, in collaboration with R. S. Woodworth, published a set of experiments.[3] This study is considered one of the most significant ever made on the problem of transfer of training; and it surely has been, I think, without any doubt, the most influential.

Thorndike took five individuals (six in some of the tests) and first tested all on their ability to estimate the area of large rectangles of 140 to 300 square centimeters. They then received intensive training in estimating the area of small rectangles of 10 to 100 sq. cm. until they became quite proficient in this. The question now was: Does training in one mental function improve one's efficiency in another closely related mental function? They were tested finally once again in their ability to estimate large rectangles. Similar tests were made in estimating weights, in estimating length of lines, in perceiving words containing certain letters, et cetera.

---

[3] from Psychological Review, 1901, 8:247-261, 384-395, 553-564.

The results were revolutionary, almost incredible, and they delivered a stunning blow to the theory of formal discipline and the whole curriculum structure based on it. Mr. Thorndike found, for example, that training in estimating lines half-inch to one-and-one-half-inches long *transferred not in the slightest* to the estimating of lines six to twelve inches. In some of the tests there was actually deterioration. In most there was improvement, but not much.

The logical conclusion seemed to be: that a person's ability to estimate half-inch lines is essentially independent of his ability to estimate six-inch lines. Surely, then, both have nothing in common with ability to estimate lines one foot long, one yard long, one hundred feet long, and so forth. There are therefore hundreds of separate "abilities" in the one matter of estimating lines, and training in any one of these does not carry over to any other—or hardly any. If it's true in this case, then it must be true all through every kind of learning.

The authors then proposed the well-known "Theory of Identical Elements," even today the most influential theory on the transfer of training:

> Training the mind means the development of thousands of particular independent capacities, the formation of countless particular habits, for the working of any mental capacity depends upon the concrete data with which it works. Improvement of any one mental function or activity will improve others only in so far as they possess elements common to it also. The amount of identical elements in different mental functions and the amount of general influence from special training are much less than common opinion supposes.[4]

Thorndike then proceeded to the logical physiological implications:

"By identical elements are meant mental processes which have the same cell action in the brain as their physical correlate."

The picture then is "thousands of particular independent capacities," each of which must be developed by itself, if it is to be developed at all. And "that one ability is improved by the exercise of another only when the neurones whose action the former represents are actually altered in the course of the exercise of the latter."

The results upon education were tremendous. Succeeding experiments tended to verify these conclusions, and the theory of identical elements became gospel among psychologists, and for the most part remains so to this day. The outcry of enraged conservatives tended only to invest the theory with the halo of an ideal, and to make a dogma out of what is merely a hypothesis.

Now in the curricula courses began to be multiplied without end or limit; for everything had to be learned separately. Latin and Greek and mathematics, which had depended upon the arguments that they strengthened the mind, and that they created and solidified certain attitudes which carry over into life, found these arguments swept away. They toppled and fell. There was no longer any such thing as a "mind" or "the memory," and of course you could not strengthen what didn't exist. There were now countless separate "minds," and countless separate "memories." The concept "memory" had gone overboard.

At this point it should be emphasized that these are honest and sincere attempts to apply scientific experimentation to a new field. That a great deal in education does depend on what really constitutes the mind is obvious. Furthermore, the question will be settled not in a contest of ridicule, not in formal debate, but in the experimental laboratory. Therefore it is vital for us to be informed on these matters.

This was only a beginning. The movement toward particularization quickly spread into the field of personality. The line of argument was as follows. If training the mind means the development of thousands of particular independent capacities, and there is no general spread of training beyond that which is actually being taught, then surely training for honesty, bravery, neatness, or courtesy is a thousand separate trainings. You have to inculcate honesty separately in each separate type of situation.

---

[4] E. L. Thorndike, Principles of Teaching (New York: A. G. Seiler, 1906), p. 248.

There can be no general trait of honesty, or of bravery or neatness or courtesy.

Succeeding studies contributed the coup de grâce. In 1905 W. C. Bagley published the following classroom experiment. For several weeks the arithmetic teacher in a certain school made a point of insisting upon neatness in the arithmetic papers. No mention was made of other papers; and the teachers of other classes made no such request. The result was: the arithmetic papers became much neater than before, but the other papers did not.

But the really monumental study is that of H. Hartshorne and M. A. May. This research is about the largest ever undertaken in the field of personality, and was conducted with great care and accuracy.

The authors started with the question: Is there a general trait of honesty? They took several thousand school children, mostly from the fifth to eighth grades, and put them through a number of test situations (unknown to them, of course). They were given opportunities to be honest or dishonest in the classroom, in their sports, and in certain especially selected parlor games. After painstakingly summarizing and correlating the results, Hartshorne and May came to the conclusion that there was a very low correlation between a person's honesty in one thing and in another, and they therefore concluded that there is no general trait of honesty.

Now if there are a thousand particular independent neatnesses, and likewise for loyalty and open-mindedness and all other traits; and if all the desirable qualities, which one might get from contact with the great, are independent and specific and have no general application; and if all learning consists of thousands of particular independent activities, with no (or very little) spread or transfer to life; then where in the world is there any room for any learning that is not immediate and definitely practical?

This is exactly what a great many people are asking—people who accept the conclusions which point to "specificity," people who accept the "compartmental" theory of learning, that there is little or no "transfer" or "spread." These are now in the majority, but the fact is that a very important current in psychological experimentation is already started which is heading off into a quite different direction.

After Mr. Thorndike proposed his revolutionary theory of identical elements in 1901, he made two additions to it, both of which were intended to strengthen his position. For one thing, he gave it a physiological basis. The other turned out to be a sort of "escape clause," used freely ever since to avoid the full implications of the theory. However, I do not think it was proposed for that reason, but because it seemed logical. I refer to his acceptance of general traits and attitudes as elements. For example:

> The habit acquired in a laboratory course of looking to see how chemicals do behave, instead of guessing at the matter or learning statements about it out of a book, may make a girl's methods of cooking or a boy's methods of manufacturing more scientific, because the attitude of distrust of opinion and search for facts may so possess one as to be carried over from the narrower to the wider field.[5]

Now this addendum is incompatible with Mr. Thorndike's own theory: that training the mind means the development of thousands of independent capacities; and at one sweep gives back most of the ground covered by his previous hypothesis. For, as P. T. Orata observes:[6]

> The question at once arises, how the "attitude of distrust of opinion and search for facts" is transferred from a laboratory course to cooking or manufacturing. . . . Furthermore, automatic transfer of a habit from one situation to another is like formal discipline. It would be like saying that reasoning in mathematics is transferred automatically to reasoning in law.

And truly, if all the various traits that Thorndike accepts as elements are admitted as transferable—"esteem for truth wherever and however present," "knowledge of procedure," "regard for the scientific method," "attentiveness," and (of all things) "habituation to discomfort and fatigue"—if these traits and others like them are susceptible of transfer, then there is a very strong case even for formal discipline, and its champion is none other than Mr. Thorndike.

---

[5] E. L. Thorndike, **Principles of Teaching** (New York, A. G. Seiler, 1906), p. 245.

[6] P. T. Orata, **The Theory of Identical Elements** (Columbus: Ohio State Univ. Press, 1928), p. 17.

But wait. They are admitted as transferable, but *not much*. Not much. That is the unequivocal answer of a majority (I believe) of psychologists in the United States; of writers on the subject I am quite sure it is the majority viewpoint.

So we are back, not exactly to where we started, but not far from it. The question, it is true, is no longer, Is there any transfer of training from one situation to another?; but, Is there any, to amount to anything?

What do the tests show? Do they show little transfer, moderate transfer, considerable transfer? The plain answer is that the tests show everything. They show everything, from interference (negative transfer), to no transfer, little transfer, appreciable transfer, and considerable transfer. . . .

The following classic experiment of C. H. Judd in 1908 threw a new and stronger light on the whole question.

The task was to throw a dart and hit a target under water. Two groups of boys ten to twelve years old were used as subjects. One group received preliminary instruction in the general principles of refraction. The other did not, and was left to work it out by experience. The two groups then began with the target twelve inches under water. Now, in the first series of trials the boys who knew the theory and those who did not gave approximately the same results.

At this point the conditions were changed: the target was placed under four inches of water. Now the difference between the two groups was striking. The boys without the theory were utterly upset. The practice they had gained at twelve inches helped not at all with four inches. Then it was changed to eight, and they were all confused all over again.

This experiment is one of the most important ever made on the subject of learning; and it led him and others to deny the theory of identical elements and to offer in its place a hypothesis of generalization. It showed too that specific training without generalized principles is worth very little: nothing at all except with reference to its one specific situation.

It showed the complete invalidity of the early experiments of Thorndike. It showed why to Thorndike the ability to estimate half-inch lines was independent of the ability to estimate six-inch lines. It showed how Thorndike had obtained such startling results, how he arrived at his theory of "thousands of particular independent capacities," and why Thorndike and others had found so little transfer. It explained the reason for the great diversity in results in the many transfer experiments. The boys without theory transferred not in the slightest, after all their practice, to a small change in the problem. The boys with theory did. Parenthetically, there are significant implications on the importance of good teachers, on the importance of formal education, and some suggestions on method.

In this same year (1908) W. C. Ruediger repeated the Bagley-Squires classroom experiment of 1905 on the transfer of neatness, but with one significant difference: in addition to emphasizing neatness on the arithmetic papers, the general practice of neatness in all one's daily life was held up as an ideal, but no mention was made of any other course. Ruediger now found considerable improvement in neatness in other class papers—the improvement averaging 65 per cent of the amount of improvment in the subject specifically trained.

Many other investigations followed, and have led to similar conclusions. . . . In the words of Ruger:

> In general, the value of specific habits under a change of conditions depended directly on the presence of a general idea which would serve for their control.[7]

Or of Allport:[8]

> There is no need to multiply evidence. Time and again it appears that identical elements in themselves have no power to effect transfer. Only when a general principle is *understood as applicable* to two or more fields does the training in one carry over to the others.

---

[7] H. A. Ruger, "The Psychology of Efficiency," **Archives of Psychology**, 1910, 15:19.

[8] Gordon Allport, **Personality: A Psychological Interpretation** (New York: Henry Holt, 1937), p. 277.

"Is understood as applicable . . ." But this upsets everything. What, one is permitted to ask, is it that does the understanding? If transfer depends in part upon "cognitive grasp"—as even Robert Woodworth, collaborator in Thorndike's first experiments, seems ready to admit, then what mechanism is it that does the "cognitive grasp"-ing? *It* must be the brain, or at the least the most important part of it. Then what is it that we have been testing . . . ?

The plain fact is, as I see it, that such phrases as "cognitive grasp" and "only when a general principle is understood as applicable" —though an important advance in our study— are a tacit admission that after all our labors the most important function of the brain, i.e. higher level coordination, has utterly eluded us.

Questions arise in great numbers. What is cognitive grasp? May not it be transferable? May it not even in the antediluvian patois of the old-fashioned disciplinarians be susceptible of being "toughened" or "strengthened" or "made flexible"? How does it operate physiologically?

Some day, we expect, experimenters will return with some of our answers. But for the time the situation is this: the theory of generalization has no generally acceptable physiological foundation. Its most important discovery, "cognitive grasp," sounds embarrassingly metaphysical and unscientific—not unlike trying to locate the soul, in the study of anatomy. . . .

In 1929 Karl S. Lashley published a small work entitled *Brain Mechanisms and Intelligence.*[9] The experiments described therein, together with some earlier experiments of his, may turn out to be as important as any contribution to the study of learning since Edward Thorndike. The tests were conducted with meticulous care.

Mr. Lashley worked with groups of white rats. These were trained in a variety of problems, and their learning ability in these carefully noted. Carefully measured and located portions of the brain cortex were destroyed, in some cases after, in some cases before, their training.

Mr. Lashley's results, and his approach, are so important that this in its entirety should be required reading for anyone studying the problem of transfer; and in the present confused state, nothing could be more salutary than the pursuit of further physio-psychological experimentation. For I suppose it is axiomatic that ultimately no theory of learning can stand unless it squares with the physiology of the organ or organs of learning.

To summarize only the more immediately pertinent of his results:

1. Evidence is adduced for what we might call a "dichotomy" in brain activity; that is, the mechanism involved in the formation of certain very simple habits seems to be different from that involved in the forming of complex habits. In other words, all of this time and through all this controversy, the various protagonists were referring to two quite different things when they used the term "learning."

2. Of these two, the simpler—e.g., the habit of connecting the presence of food with a light or a dark passageway, or other similar sensory discriminations—the capacity for this type of learning is not noticeably affected by the removal of a large part of the brain cortex, even if the entire sensory field concerned is removed. And this sort of learning habit once formed, is definitely localized (within the occipital part of the cerebrum); and the habit is lost by the removal of this area.

3. BUT, in more complicated learning, *all of the brain tissue is needed*. The lesion of any portion of the cortex reduces the capacity for this type of learning. It reduces it roughly in proportion to the amount of tissue destroyed. This reduction is brought about *without regard to the location of the tissue removed.*

Nothing could be clearer in its implications: *upper level integration is the function, not of isolated synapses or neural grooves, but of the brain working as a unit!*

Karl Lashley concludes:

> None of the studies of learning or retention of the mazes after cerebral lesions has given the slightest indication that the maze habit is made up of independent associational elements. There was never amnesia for one part of the path with retention of another (except that the habit of manipu-

---

[9] Karl S. Lashley, Brain Mechanisms and Intelligence (Chicago: Univ. of Chicago Press, 1929).

> lating doors, once acquired, was never lost.) . . . The diversities of the behavior . . . corresponded somewhat with the magnitude of the lesion, but not at all with the locus.[10]
>
> If learning is restricted to particular synapses there can be no influence of training upon other activities than those actually practiced; any improvement in unpracticed functions must be the result of nervous connections which they have in common with the practiced activities. The rejection of doctrines of formal discipline seems to have been based far more upon such reasoning than upon any convincing experimental evidence. . . .
>
> There is no evidence to support this belief in identity of nervous elements. On the contrary, it is very doubtful if the same neurons or synapses are involved even in two similar reactions to the same stimulus. Our data seem to prove that the structural elements are relatively unimportant for integration and that the common elements must be some sort of dynamic patterns, determined by the relations or ratios among the parts of the system and not by the specific neurons activated. If this be true, we cannot, on the basis of our present knowledge of the nervous system, set any limit to the kinds or amount of transfer possible or to the sort of relations which may be directly recognized.[11]

Where does the matter stand at present? These are the answers, to the best of my knowledge:

1. Can the mind as a whole be strengthened? Nobody knows. I mean, nobody knows. Nobody knows that it can. Nobody knows that it cannot. Pending clarification of the problem it would be more scientific not to claim that any given subject strengthens or toughens the mind.

2. May attitudes and methods, developed in one course, transfer to other courses and other situations? They may. This is generally accepted, and it represents an important argument for the classics. For, obviously, the attitudes which will be necessary in the severer competitions of life may therefore be attained in the classroom, and they cannot be acquired in the softer disciplines.

3. Do such attitudes and methods *necessarily* transfer? They do not. It is quite possible, then, for a teacher (for example, of Latin) to inculcate thoroughly such habits as "willingness to face a difficult problem," "knowledge of procedure," "distrust of opinion and search for facts," "unwillingness to admit defeat"—verily a potent armory in the battle of life—only to find that the student identifies these with one particular field and does not take advantage of them elsewhere.

4. How can one tend to insure such transfer? Conscious generalization seems to be the answer. The attitudes and methods, while being formed, must be generalized, and the necessity of their application throughout life must be emphasized.

5. Are there other transferables? Yes, the accumulated body of facts and theories and general laws, which is passed on through education. These are transferable (subject to the laws of forgetting) in the sense that they are later available in other situations. These situations must be similar and recognized as such. Here lies the contribution of the classics to the student of English and the other modern languages, to the student of modern art and modern history and religion and philosophy; also (this has not been emphasized sufficiently) to the student of modern life, by providing the means of attaining perspective. But here, I repeat, not only must the situations be similar (as we know they often are) but *the student must be trained to recognize them as such.*

6. Is the amount of transfer from school subjects great or small? The amount of transfer is potentially quite great, but actually only moderate. However, even if it were small but persistent, it would be very valuable. Thorndike admits this:

> Finally it must be remembered that a very small spread of training may be of great educational value if it extends over a wide enough field. If a hundred hours of training on being scientific about chemistry produced only one hundredth as much improvement in being scientific about all sorts of facts, it would yet be a very remunerative educational force.[12]

---

[10] *Ibid.*, p. 141.

[11] *Ibid.*, p. 172 ff.

[12] E. L. Thorndike, Educational Psychology, 1913, 2:421.

The Problem of Transfer—Then and Now

William Clark Trow[13]

Following the historical, analytical survey of learning theory in the Rapp selection, the article below deals with the problem of transfer as it applies to classroom teaching. The author suggests that if we are to ensure maximum transfer, we must "teach for transfer" through content and methods designed for the particular subject being taught. Transfer will neither take place in a mechanistic way nor occur merely because researchers have found evidence that it exists.

A professor of history recently wrote that in insisting on the academic disciplines for all as the means for training people to think, he might be accused of believing in the transfer of training. A boner like this, coming from one who has set himself up as an authority in educational matters suggests that Wingo is right in his contention that educational reformers should seriously consider the nature of retention and transfer. Confusions of this kind growing out of ignorance of scientific investigations in educational psychology during the past fifty years are no doubt in part responsible for the current resurgence of nineteenth-century fundamentalism.

FLASHBACK—FORM AND CONTENT

An opinion poll would probably show that there are about as many people in favor of thinking as are against sin. So it may be well to do a little thinking on this subject. First a clarification of concepts. Transfer is the name for the fact that the experience of learning in one situation influences learning and performance in other situations. This influence may be positive or negative; it may facilitate or interfere with subsequent performance. In specific situations, the questions for which answers are needed are: What transfers? To what? Under what circumstances?

The discredited doctrine of formal discipline, on the other hand, was built on the faith that the study of certain subjects in some mysterious way trained the mind. No questions were asked or permitted as to how this took place. There were only believers and heretics.

Throughout history, successive generations have been taught the skills and the knowledge of the facts and their relationships that have enabled them to survive and find some satisfaction in survival. Neither the Athenians nor the Romans, nor even the medieval schoolmen studied the classical languages to train their minds. The content was the important thing, as it was during the revival of learning, and as it was for Spencer in advocating science in his famous essay, "What Knowledge Is of Most Worth?" What, then, produced the strange transition of emphasis from content to form which compelled young people to study languages, mathematics, and science they would never use after school days were over?

One factor was tradition, the cultural lag, by which outmoded forms, education among them, continue to be what they have been. The other factor was the development in Germany of the so-called faculty psychology, which came into being largely as a consequence of a semantic error. The gerund is both verb and noun. It is an easy step from "the man *is thinking*" to "*thinking is* a human faculty." So thinking, attending, remembering, and other "faculties" became thought, attention, memory—separate entities which the phrenologists tried to locate in different parts of the brain, and the formal disciplinarians sought to train by exercising them. The best exercise ground was supposed to be the study of some organized, internally structured system. Greek and Latin, Euclid, and formalized science courses met these qualifications. Not the subject matter but the training was the thing, not the content but the form. Education was to be obtained by indirection.

---

[13] from Phi Delta Kappan, Vol. 40, No. 2, Nov. 1958, pp. 68-71. Reprinted by permission of the publisher.

FALLACIES OF FORMAL DISCIPLINE

The doctrine of formal discipline was for a long time highly respectable and became so well entrenched that long after it was scientifically discredited it had its supporters. I recall the statement of a college president as late as 1922 which was typical of this view. Speaking to his student body, he sought to banish their doubts about the value of their studies with this pronouncement: "Your work here," he told them, "will build in you a great reservoir of power that you can use in any kind of endeavor in which you may later engage." And why not? Had not statisticians shown that those who went to college earned more money (on the average) than those who did not!

Such learned gentlemen unfortunately overlooked the matter of selection. The bright students were the ones who went to college. And further, in spite of their own reservoir of power, these gentlemen, alas, were guilty of employing the *post hoc ergo propter hoc* fallacy. But what precedes is not necessarily the cause of what follows, as, for example, in the case of the pupils who had studied Latin in high school and subsequently did better in English than those who had not. They also did better before they had studied Latin! The pompous pronouncements turned out to have no more validity than so many testimonials for a patent medicine.

THE PERIOD OF SCIENTIFIC INVESTIGATION

The story of the researches that shattered the doctrine of formal discipline is too long to repeat here. We can, however, note five areas of investigation:

1. Training in a subject or activity to improve one's performance in it. About this there can be no question. Adequate training in Latin, engineering, or music will improve the learner's performance in Latin, engineering, or music up to the level of his capacity.

2. Training a faculty to improve it. (For faculty the term *mental function* came into use to emphasize the activity and avoid the connotation of separate entities.) This failed on the first attempt, that of William James, who was surprised to discover that he could not improve his memorizing ability (train his memory) by memorizing. Later experiments with other mental functions brought similar disappointing results.

3. Training in school subjects to improve mental functions. This is the key educational problem, but impartial evidence was hard to come by. In the crucial Thorndikian studies of over 13,000 children, no combination of subjects was significantly more effective in raising general mental ability scores than any other.

4. Training in school subjects to improve life adjustment. Because of the difficulties in measuring life adjustment, adequate data are not available on this point. However, support of education by state funds is predicated on the assumption that it will enable people more adequately to manage their affairs as individuals, as members of families, as wage earners, and as citizens. The burden of proof lies with the advocates of the disciplines to show that their formal, indirect approach is more effective in attaining this objective than the common-sense direct approach.

In the hundreds of researches that have been conducted in transfer of training, three definite conclusions recur again and again. The first is that intelligence is positively correlated with transfer, and that successes previously attributed to the effects of formal discipline were largely the consequence of genetic factors.

The second conclusion is that in general the more nearly similar the tasks the greater the transfer. The principle of similarity was enunciated by Thorndike[14] as early as 1913: "A change in one function alters another only in so far as the two functions have as factors identical elements." Woodworth pointed out in 1938 that the term "element" in context clearly refers not to an unanalyzable or even necessarily a simple constituent, and that hence the term "component" would be more appropriate. This is borne out by Thorndike's own explanation: "Chief among such identical elements of practical importance in education are associations including ideas about aims and method and general principles, and associations involving elementary facts of experience such as length, color, and number which are repeated again and again in differing combinations."[15] The "general principles" item seems to take care of Judd's important emphasis on transfer by generalization.

---

[14] Edward L. Thorndike, The Psychology of Learning (New York: Teachers College, Columbia Univ., 1913), p. 358.

The third clear conclusion from the experiments is that methods of learning and instruction are of prime importance. "Habits of procedure" were noted in Thorndike and Woodworth's 1901 experiments, and Woodrow's subjects who were given training in how to memorize (looking for meaningful associations using rhythmical grouping, and so on) made significant gains over those who merely practiced memorizing. Similarly, Barlow's subjects profited from developing confident attitudes in problems of analysis, abstraction, and generalization and by learning effective procedures. Such conclusions as these, derived again and again from experiment after experiment, are strangely at odds with the current effort to de-emphasize methods in teaching. We can conclude that if so-called hard subjects are valuable, either it is because their content is important, or because the methods of teaching them are such that the application, the transferable features, are always deftly imbedded in the instruction. Unfortunately, the latter condition cannot be safely assumed.

STIMULUS AND RESPONSE GENERALIZATION

There is no doubt about the existence of transfer. Psychologically, it may be viewed as the processes of stimulus and response generalization, concepts growing out of the conditioning experimentation.

Response generalization (the successive stimuli remaining the same) is a gradual modification, in successive trials, of the response which brings the reward or avoids the punishment. More broadly, it can mean a series of successive approximations which bring an improvement of the response in view of its consequences, and which, hence, provide continuing satisfaction (reward or reinforcement).

Stimulus generalization (the successive responses remaining the same) implies a continuing recognition of the identical component among varying concomitants. Instruction is often necessary to aid the learner in discriminating the significant stimulus, in recognizing the same concept or principle in changing surroundings.

Most problems, however, require both—generalization of the stimulus and of the response. A stereotype is the response of an individual who fails to make the necessary adjustment, e.g., when you see this, do that, except that if X is present do something else. Training is practice with the usual combinations of stimuli. Judgment is needed when there are changes in the concomitant variations. A problem is a situation in which the individual is unable to select from his acquired repertory of knowledge, habits, and skills those which enable him to make or to discover the correct response.

In view of the fact that practically all mental processes are involved in transfer, it may be that the term is becoming as obsolete as formal discipline. Let us suppose that a student had acquired some knowledge, skill, or attitude in connection with some school subject, and an occasion later arises when it can be used in another subject, or in an out-of-school situation. If we analyze the possibilities, we can see that his response, i.e., successful "transfer," will depend on:

1. Whether he has an appropriate *set*, which involves matters of interest, readiness, and motivation. (The negative possibility here is displacement of emotional attitudes of aggression, anxiety, and the like.)
2. Whether he *perceives* the identical components, the significant stimuli, and is not dis-

---

[15] Thorndike, *op. cit.*, p. 359.

tracted by the concomitant variations in the new situation. This has been called stripping the essential process of its adventitious accessories. (The negative possibility is that he may not recognize that here is a situation he has been taught to deal with.)

3. Whether, though, he recognizes the situation, he *remembers* his earlier instruction—the facts, principles, or procedures needed. (The negative possibility is that he has forgotten.)

4. Whether the response to be transferred has been sufficiently rewarded or *reinforced*, so that when it is appropriate he actually makes it. (The negative possibility would be one in which the rewards for making the right response seem not so great as those for not making it.)

5. Whether he can *choose* from among conflicting stimuli when his previous experiences call for differing responses to differing components in the situation. (The negative possibility would be a wrong choice—negative transfer—failure, frustration, and the possible use of irrational defense mechanisms.)

TEACHING FOR TRANSFER

In view of these complications, it may well be that instead of talking about transfer, we should instead carefully consider the objectives of instruction, and select the content and the methods that are needed to attain them. We can no longer assume that merely dunking all students in the same brew of the disciplines will enable them to think in general. Certainly the more competent they can become in dealing with the facts and relationships of a particular structure—a discipline, a vocation, or pattern of life—the more successful they can become as operators *within* that structure.

But if abilities, attitudes, and skills in general, and ability to think in particular, are to be transferred *outside* the structure, the emphasis must be shifted to the other kinds of situations in which they are to be used. Methods of teaching are thus of the essence, not merely "bedside manner," as was suggested by the professor of history in one of his less enlightened moments. Teaching for transfer is one name for it. For example, if geometry is to be studied with the objective of teaching pupils to think, it must be taught in such a way that students habitually employ and require of others clear definitions of concepts, and in approaching a problem inquire into the known facts (what is "given"), and so on, not only concerning spatial relationships but about others as well. And for languages, emphasis must be placed on word study, etymology, and linguistic differences in sound, words, and meanings. Otherwise the transfer is insignificant if not negative, as several studies have shown. With all the uncertainties in the possibilities that were listed, we can hardly depend on the transfer of learning from traditional subjects, even when they are well taught, to enable young people adequately to meet the life situations that confront them.

WHAT ARE OUR PROBLEMS?

The study of mathematics and science is necessary to produce mathematicians and scientists, true enough. This is the direct, content approach. But will the study of algebra reduce the annual slaughter of 40,000 persons on our highways, or will transfer be more likely from courses in driver education? And will five years' study of physical sciences serve to reduce the number of resident patients, now about 500,000, in our mental hospitals, or the 2,500,000 major crimes committed in this country each year? Or will a mental health program be more effective in producing a more satisfactory kind of life adjustment? Can we depend on rigid requirements in Latin or modern languages to break up the hideous partnership of gangsterism with labor and politics, and on the positive side develop competent workers and responsible citizens? Or will a direct approach to social studies and practice in solving meaningful problems cooperatively be a more likely alternative?

The heedless drivers, the mentally ill, the convicts, and the gangsters are products of our schools, and their replacements are now enrolled in them, as are the far larger number whose positive contribution we think we can count on. We should not sell them short with stale promises of mental training made by ignorant men and based on dilapidated theories which provide only traditional form without needed content. Our young people deserve something better than this.

Teaching Scientific Theory to First Grade Pupils by Auto-Instructional Device

Evan R. Keislar and John D. McNeil[16]

Children do not "naturally" give scientific explanations for phenomena in the world about them. The experiment recorded here was an effort to see if young children could learn abstract scientific language and apply this knowledge to new situations. It is also an attempt to teach by the use of a programed sequence in a teaching machine. Would you think that six-year-olds could grasp concepts about molecular theory? We have, embodied in this selection, an interesting learning theory as well as some unusual assessment devices.

Studies have concluded that most children at the age of six or seven do not give scientific explanations for physical events; instead children offer animistic, phenomenological or magical accounts (Deutsche, 1937; Oakes, 1947; Piaget, 1929, 1930). The point of view adopted in the present investigation is that children can be taught to give scientific explanations of physical phenomena if they learn a theoretical language for dealing with such events. The purpose of this article is to describe an attempt to help first grade pupils acquire and use aspects of scientific theory in explaining certain physical phenomena.

Scientific theory is defined as a set of verbal statements which mediate between (1) the observed phenomena and (2) behavior controlling or predicting further events. If an individual acts without the use of such mediating language, there is no proof that he is using theory; like primitive man, he may have learned merely what to do under specific circumstances. With scientific theory he possesses a tool which enables him to generalize to unfamiliar instances of the phenomena. On the other hand, just saying the words in a theory does not necessarily involve them as true mediators. The child must demonstrate that he can make the appropriate statements and respond to his own words in the solution of problems different from those previously encountered. In order for children to give scientific explanations, they must learn the statements we call scientific theory as a chain of intraverbal behavior and demonstrate that they can use segments of the chain appropriately.

The first-grade children in this study were taught several basic statements of molecular theory as related to the complementary processes of evaporation and condensation, among which five were regarded as the most important:

1. Molecules in a liquid move around each other; they stay packed together, close to each other.
2. Molecules in a gas move in all directions; they do not stay close to each other.
3. The hotter a substance is, the faster the molecules move; conversely, the colder it is, the slower the molecules move.
4. If some of the molecules near the surface of a liquid move very fast, they escape from the rest and go off in all directions.
5. When molecules of a gas move too slowly, they are pulled together and form a liquid.

The verbal statement of these principles was varied so that learners would acquire different patterns of intraverbal responses to express each relationship. The mediating function of the theoretical statements for explaining problems of evaporation is illustrated in Fig. 1.

---

[16] from Harvard Educational Review, Vol. 31, No. 1, Winter 1961, pp. 73-83. Reprinted by permission of the authors and publisher.

On the left, the boxes represent different concrete problems presented to the child. If the child has learned to label these situations appropriately (e.g., "liquid being heated"), these words in turn should bring about statements of the principles, a chain of circles at the top, ending in an overt response of prediction or environmental control, the boxes at the right.

What the child says or does on the right hand side depends in part upon his familiarity with the specific situation and the question being asked as well as the scientific language he has learned. His explanation of the situation consists of overt expression of the intraverbal responses or theoretical statements of principles.

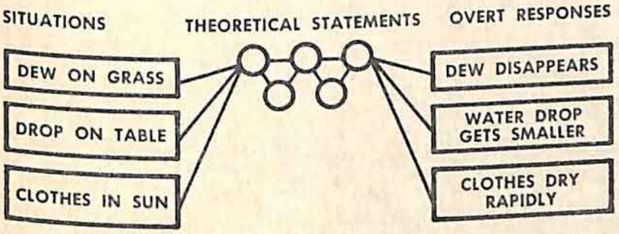


Fig. 1. A schematic representation of the role of scientific theory in dealing with problems of evaporation.

To undertake this study, a three-week instructional unit or program was constructed and administered to a sample of first grade pupils using an auto-instructional device called a Videosonic Tutor.[17] Instruction was carried on exclusively by the machine's simultaneous projection of colored slides and a recorded vocal commentary, the child responding to each problem presented by pressing one of three buttons. The auto-instructional features of the approach permitted a consistency of instruction not possible in the usual teaching situation and afforded a reliable record of each child's performance.

INSTRUCTIONAL PROGRAM

In preparing the program, the original set of items was tried out with pupils and revised three times. The final content of the instructional unit used in the experiment consisted of 432 items organized into thirteen daily lessons. A distribution of these items by topics is to be found in Table 1.

Table 1 Distribution of items by topics

Topic	Number of Items
a. operation of Videosonic Tutor	26
b. code for interpreting molecular motion and direction	56
c. molecules as elementary particles	42
d. movement of molecules as related to states of matter	86
e. the concept of molecular attraction	21
f. evaporation (vaporization)	80
g. temperature as related to molecular motion	44
h. condensation	66
i. the distinction between gas and gasoline	8

Questions or problems accompanied nearly all of the items, and the items themselves were arranged in a sequence designed to assist the child in answering successively more and more difficult questions. The learner was required to answer each question correctly before advancing to the next item.

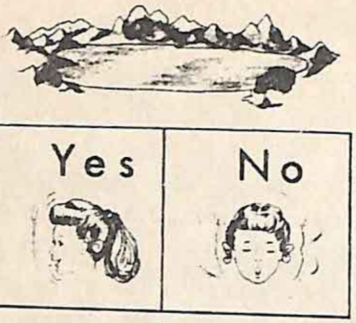
The program was built around the chain of intraverbal responses previously described. The word "molecule" was related to every day objects. The properties of liquids and gases were taught in terms of molecular movement. By extending the chain to show how fast-moving molecules escape from the liquid and become free-moving to form a gas, the intraverbal associations were presumably formed to describe the process of evaporation. The effect of temperature upon the speed of evaporation was then clarified. A similar process in reverse was used to teach condensation. In all of these attempts the associations were promoted by the use of analogies, pictorial prompts, and special codes taught within the program.

The learner was required to associate almost every word or phrase in the intraverbal chain with other links in the chain. He was shown, for example, a pan of hot water and was asked

---

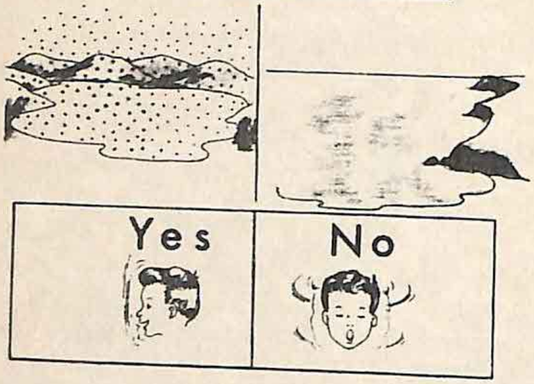
[17] An auto-instructional device developed by Hughes Aircraft Company, Culver City, California.

Fig. 2. A sample sequence, items 1-5 from lesson 12.



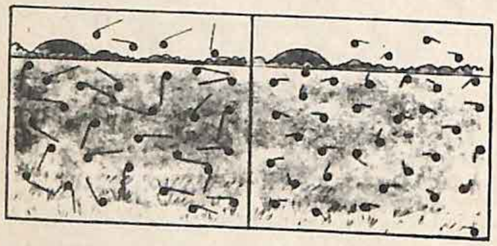
1. There is always water vapor in the air. Can you see water vapor in the air?

Right! Of course not. Water vapor is a gas and so the molecules are too small and far apart to be seen.



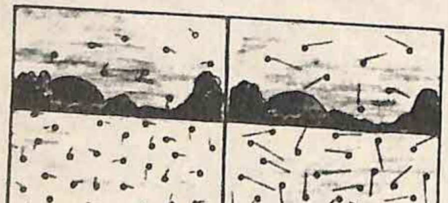
2. In one of these pictures the molecules of air have been drawn. But in the other picture no air molecules are shown. Does that mean that there is no air in this other picture?

You're correct. You really can't see air but it is still there. Sometimes we draw dots or circles so you can see how molecules act.



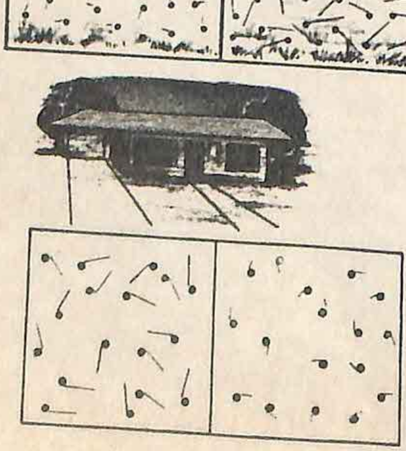
3. After the sun sets, everything gets colder. Which picture shows that the air around the grass is cold?

You're right. Molecules of air move slowly when the air is cold.



4. Besides air, there is water vapor near the grass. Which picture shows that air and water vapor cool down as the sun sets?

Right! The cool night slows down air and water vapor molecules.



5. During the night it is colder than it is during the day. In the day the sunlight warms everything up. Which picture shows air molecules and water vapor molecules during the night?

Right, since it is colder at night the air molecules move more slowly.

to infer the speed of molecules. At other times, when shown a pan of hot water, he was asked to predict the speed of evaporation. The procedure was also reversed by presenting a picture of a pan of water and asking the learner to indicate how he would hasten the evaporative process. This network of "meaning" was continually reviewed by additional items which were always slightly different. Thus it was hoped that several strong linkages of verbal responses would become available to the learner for his use.

An illustration of the program can be seen in the accompanying sequence, Fig. 2, a sample drawn from the twelfth lesson. The original pictures were in color. The items shown in Fig. 2 review the topic of condensation by presenting the phenomenon *dew* as a new example of condensation. The child must apply a principle he has already learned, namely that cooling of water vapor slows down the molecules, resulting in drops of water. [The full sequence exemplifies] the use of two communication codes taught earlier in the unit: the use of vectors in indicating speed and direction and a color code in which water vapor is depicted as blue and air as red. It is assumed that the learner must use verbal statements in explaining and predicting, something more than mere recognition of a right answer. [The full] sequence also shows the cumulative nature of the teaching process and the simple step from each item to the next so that the learner almost always gets each item right.

Subjects

Thirteen first grade pupils, who represented a range of ability, made up the experimental group. The control group consisted of a like number matched with the experimental group on the basis of the teacher's assessment of the pupils' attentiveness, maturity, and intellectual ability, as well as scores on a pre-test of vocabulary used in the program, e.g., "desert," "oil." Children in the control group received no special instruction.

TEACHING PROCEDURES

Children appeared individually at a room made available for the auto-instruction. A research assistant was always present for the purpose of loading the Videosonic Tutor and maintaining a record of each child's performance, but this assistant gave no instruction of any kind. Each child spent approximately fifteen to twenty minutes with the device each day for a period of thirteen days.

A single Videosonic Tutor was used throughout the experiment. At the beginning of each daily session, the research assistant seated the pupil in front of the device and started it. For each sitting approximately thirty-six slides were projected in sequence upon a viewing screen at the front of the Tutor. These slides usually consisted of a central picture with two or three sub-pictures constituting the alternatives to the question to be asked. While each slide was projected, the child heard through earphones a commentary from a tape recorder in the device.

This commentary supplied necessary information about the picture and asked a question. After each question, the tape recorder automatically turned off, at which time the pupil pressed a button corresponding to the sub-picture he chose as his answer. If he was correct, a green light was lighted beside the button pressed, the tape recorder started to play again, and the child heard words of approval along with the brief explanation as to why this answer was correct. A new slide was then automatically presented, and the process was repeated.

When an answer was in error, the green light did not go on, and the child had to clear the keyboard by pushing a yellow button before he could try again. The program would not advance until the pupil pressed the correct button.

Post-test

The day after the completion of the videosonic instructional program, children in both the experimental and control groups were given a post-test of approximately ten minutes' duration. This test consisted of a standardized interview in which the child was presented with actual physical phenomena and asked to explain these phenomena by (1) supplying appropriate terminology, (2) describing what had happened, (3) predicting what would happen subsequently, or (4) showing how he would make certain things happen. In this way, the child was asked to use segments of the intraverbal chain taught. For example, the child was shown a plastic box in which there was mercury, a substance that had never been referred to in the program. He was asked whether "this thing in the box" was a solid, liquid, or gas. The child was also requested to give reasons for his answer. A sample of other questions asked appears in the subsequent section of this paper. Contrary to the instructional phase of the study, the post-test required the learner to say words out loud.

An interviewer and a recorder, both of whom were strangers to the experimental and the control children, conducted the post-test. These two assistants were not told which children had received the auto-instruction. The child's oral response to each question was recorded, and the records were subsequently read and scored by these same assistants.

Preliminary results

All except one of the thirteen experimental children showed higher post-test scores than did their controls, a difference which is significant at the .01 level on the basis of a sign test. The one exception was a girl who had shown successful performance throughout the program but during the interview appeared to be quite withdrawn and answered only five questions, all of them correctly.

The mean score of the experimental group on the post-test was 66% of the total possible, while the control group mean was 22%. Three of the experimental group made scores higher than 90% correct, demonstrating an unusual mastery of the content of the program.

The contrast in quality of answers given to questions by pupils in the two groups is illustrated by the following summary of responses to six of the twenty-one questions in the interview. In presenting the percentages of appropriate answers, it is to be noted that the remaining per cent always constitutes irrelevant or "don't know" answers.

Interviewer: "I'm blowing on my hand. You blow on yours. Do you feel the air on your hand? What is air made of?"

Answers: 92% of the experimental group correctly indicated that air was made of molecules; no one in the control group gave a correct answer.

Interviewer: "Is air a solid, liquid or a gas?"

Answers: 85% of the experimental group and 14% of the control group correctly answered that air was a gas.

Interviewer: "How can you tell that air is a gas?"

Answers: Only 15% of the experimental group gave an answer indicating that a gas filled its container or that molecules moved in all directions. Apparently the program failed to teach this characteristic of a gas. None of the control group gave this kind of answer.

Interviewer: "There is water vapor in the air in this room. See this cold glass. What happens to the molecules of water vapor when they come near the glass?"

Answers: 62% of the experimental group said that water vapor molecules would slow down when they came near the glass, would attract each other, or form drops of water. 7% of the control group said "they" go more slowly or make more water.

Interviewer: "A little while ago I dried this glass off with a cloth. But look at all the water on the outside of the glass. See, the cold glass is wet; feel it with your fingers. How did the glass get wet on the outside?"

Answers: 62% of the experimental group answered that molecules were slowed up, were attracted to each other or formed drops. 38% of the control group said "it perspires" or "from the cold water" or "cold glass."

Interviewer: "What happens to the molecules of water vapor when the water vapor condenses?"

Answers: 46% of the experimental group said that the molecules move more slowly, come together, or form drops. The control group said they did not know.

All youngsters in the experimental group said that one could not see molecules, indicating that representational drawings did not result in a distorted notion about the visibility of molecules.

With respect to the performance of the experimental group during the program, several additional comments are in order. Individual children differed in the number of errors they made. One pupil made as few as 7%, while another, with the lowest reading readiness score, made as many as 29%. The average child missed 14% of all items in the entire program. The daily lessons varied in difficulty; the average error for each day ranged from 7% to 19%.

Success on the post-test was significantly related to the number of errors made during the auto-instructional program (rho = –.60). There was some evidence that the program was more appropriate for children with a high reading readiness and effective study habits.

The final question in the videosonic instructional program asked the pupils if they would like to continue learning new things in this fashion. All children responded by pushing a button indicating "yes." The classroom teacher from whose class the children were drawn reported that the children looked forward to the program each day. Many of the children spontaneously took ideas from the auto-instructional materials, using them in the creation of their stories for classroom purposes.

Conclusions

1. While there are great individual differences, first grade pupils can learn an abstract scientific language. It appears that most children can learn to use this language as segments of the chain of intraverbal responses in the explanation of the physical phenomena of evaporation and condensation. The kinds of behavior called for by the program and the performance of the children on the post-test demonstrated that children had acquired general understanding, not mere rote learning. Extension of the program should result in further progress in helping children generalize to new situations. The program is still too difficult for most first grade children. Revision of the items should include a more detailed sequence, more adequate reviews, and a wider sampling of the phenomena being discussed.

2. Even though the multiple-choice method was used throughout as the sole means for responding, most of these children were able to use previously unfamiliar terms as well as their own words in explaining problems of evaporation and condensation. A few of the children showed some hesitation in verbalizing scientific terms. This might have been because these children had never before been called upon to say the words overtly. Future experimentation with the Videosonic Tutor should provide for recording the child's voice. With practice in speaking out loud, pupils would probably show (a) more facile expression and (b) more accurate use of scientific language in the solution of new problems.

3. The Videosonic Tutor held the interest and attention of all of these six-year-old children over a period of almost three weeks. While it is impossible to conclude that this interest will continue on the part of young children for a full school year, it seems highly probable that effective programming is the key to motivation.

INTERPRETING THE SELECTIONS

Rock article

1. What new approaches to teaching rote material are suggested by the article?

2. As you look back over your rote-learning school experiences, do you see ways in which they might have been better designed, if Rock is correct?

3. What is the role of interference in learning? How can its effects be minimized?

Rapp article

1. How have Thorndike's experiments influenced educational theory?

2. In Thorndike's experiments on "ability to estimate," what factors had been overlooked?

3. Given our present knowledge, how can we try to ensure that maximum transfer will take place?

4. Explain the statement that even if the amount of transfer from school subjects were "small but persistent, it would be very valuable."

Trow article

1. What is meant by "stimulus and response generalization"?

2. Do you agree with Trow's assessment of the factors necessary for successful transfer?

3. What does the author mean by "We should not sell them short with stale promises of mental training made by ignorant men and based on dilapidated theories"?

Keislar and McNeil article

1. Are you satisfied with the "matching"? What might happen if 1300 rather than 13 pupils were used in each group?

2. Would you say the experiment was a success? Do you think that the same experiment could be done without the machine?

3. What was done to prevent rote memorization?

4. What might happen if junior high science classes used this program?

11 READINESS FOR LEARNING

The Psychology of Individual Differences

Philip E. Vernon[1]

Individual differences are, in effect, differences in readiness for learning experiences. Each child enters school with a different level of intelligence, interest, and previous knowledge. Each comes with a different readiness to approach learning. How can the schools cope with this heterogeneity and at the same time provide the best education for each student? In the following article, the author examines this question in the light of psychological findings in this area.

One of the most urgent and most controversial questions in education today is what kind of organization will encourage the fullest development of the varied mental capacities and inclinations of students. There are certain fundamental psychological principles—as well as advances in recent years in the field of mental testing—which may be a help in guiding our views on educational policies.

Although the present system of allocating students to suitable courses of study in England is about as different as it could be from the system in America, it may seem worthwhile to pool our experiences in an attempt to see our way a little more clearly. . . .

The problem is indeed a very broad one. In general, pupils and students are so heterogeneous in their characteristics and potentialities that it might seem desirable to plan for each one an education uniquely suited to himself. However, this is neither possible nor desirable, for education implies not only individual development but also the training of different individuals to conform to society's patterns of intellectual and social norms. Thus there are positive advantages in educating diverse individuals in groups. Nevertheless, there must be some restriction of their heterogeneity, otherwise the educational process becomes inefficient and frustrating to the students as well as to the teacher. . . .

Given, then, there must be some reduction in heterogeneity, the psychologist would surely urge the following stipulations. Any grouping should be based on some characteristic which: first, is stable and enduring; second, can be accurately assessed; third, has a major influence on educational progress; and fourth, is acceptable to society. Difficulties arise at once, because few characteristics, apart from age and physical handicap, meet these requirements. . . . Nevertheless, there is general agreement that grouping is necessary.

---

[1] from Harvard Educational Review, Vol. 28, Spring 1958, pp. 91-104. Reprinted by permission of the publisher.

GROUPING BY ABILITY

Here we shall turn to that which is made on the basis of ability. However, determination is not to be made solely by the use of the intelligence testing which results in an IQ score, but through the broader interpretation of the term intelligence. Intelligence can be defined as the more general thinking capacities: capacities for reasoning, for grasping relations, for comprehension, for new learning, and for concept development—that is, capacities which are not so much specifically taught, as picked up by children in the course of their interaction with the home, school, and wider environments. Attainments, on the other hand, refer rather to concepts and skills which depend more on direct instruction and on the child's interest and industriousness in the particular subjects studied.

Such a distinction is one of degree rather than of kind, and it is entirely false to think of intelligence as causing, or making possible, attainments. It is at least as arguable that, through the acquisition of attainments at home and at school, the child is enabled to build up his intelligence. . . .

No doubt it will be suggested that, instead of grouping by general intelligence and previous all-round achievement, we should consider type of ability and interests along special lines. This might be called the multi-dimensional as opposed to the uni-dimensional approach. British and American psychologists have always differed on this, just as have their educational systems. The British, following Spearman, have tended to stress the importance of general ability: children who are above average in one school subject are likely to be above average in all others. Only to a limited extent, as C. L. Burt demonstrated in 1917, do we get more specialized types of ability showing in the primary school—for example, some children being generally poorer at number work than at English subjects, or better at all practical and manual activities.

In contrast, Thurstone in 1938, from his analysis of tests given to college students, claimed that abilities are largely independent —attributable to a series of separate factors: verbal, number, reasoning, spatial, etc. When, in later work, he extended his testing downwards to eighth grade and younger children who were less highly selected, he, in fact, found much overlapping among these factors. . . .

This means, then, that it is extraordinarily difficult to differentiate secondary-school pupils by type of ability into even such broad categories as linguistic or academic on the one hand, and scientific or technical-mechanical on the other. For the most part, those who are best at one course would also be above average at the other, and vice versa.

If we confine our attention to a narrow ability range, say the top 20 percent as in England, then we find it possible, with our present verbal and spatial tests, to differentiate the extremes. Of course there are no distinct types of children any more than there are tall and short types in height. We can pick out roughly one-sixth who are relatively superior on the linguistic to the technical side, and one-sixth who are more suited to the other type of course. There remain two-thirds who are likely to do equally well or badly at either. . . .

The efficiency of prediction of over-all level of achievement by means of tests is much greater than the efficiency for classifying according to, say, engineering or arts, and this is only the broadest and most obvious dichotomy. If we tried to go further and split off, say, foreign linguists, social studies students, art students, and agriculturalists, we should certainly be far less successful still.

Some psychologists would claim that abilities differentiate with age, so that suitability for different lines of study or type of curriculum would become more clear-cut near the end of secondary schooling or during college years. No satisfactory evidence for this claim can be found except insofar as groups of older students are usually more highly selected in general ability. . . .

However, the outlook for guidance or selection into types of courses is not quite so dim if we take account of interests, since interests have the tremendous advantage, for classification purposes, of showing quite low, sometimes even negative, correlations with one another. The good scientist and the good business man, for example, may differ little in such abilities as we are able to test. They would, however, loathe one another's jobs, and would likely be thoroughly bored by any . . . training designed to prepare them for the other's . . . career. . . .

DEVELOPING INTERESTS

One difficulty with interests, though, is that they cannot develop without experience. There must be many adults who fail to get much satisfaction from their vocational and avocational pursuits because their education has not provided sufficient opportunities for them to experience, say, painting, farming, or mechanical work. The American system of offering a wide choice of secondary-school subjects, while often criticized by educators for its fragmentariness, is sounder in this respect than the English which gives less variety and, indeed, tends to stereotype the more able pupils either in an arts or a science field from about the age of 14, and to discourage less academic inclinations. The shortage of technologists and high-grade technicians in England is at least as serious as that in America. Clearly one of the reasons is the high social prestige of academic courses of study which hinders the provision of experience that might stimulate the development of more practical interests.

Another obvious difficulty arises from the variability of interests during adolescence. Among many students, interests may not be sufficiently stable nor assessable to allow firm and satisfactory educational or vocational specialization until the end of secondary schooling or even later. Nevertheless, one investigation at London University of adult technologists and arts men did suggest that some differentiation of interests would have been apparent in the great majority as early as 12 years. This is a field where psychologically trained counselors can help in making earlier diagnoses, and where current work on personality gives promise of improved tests.

How about the problem of discovering the brilliantly talented individual—the occasional future genius? Clearly, neither our tests of abilities nor of interests are going to be much use here, and we must continue to trust mainly to luck, to the perceptiveness of the school or college teacher who encourages him, and to the individual's own drive, which enables him to break through the barriers of the educational system.

One other point of psychological theory: Although it has been shown that the group factors underlying particular types of curriculum are disappointingly small and difficult to diagnose, this does not dispose of what Spearman called specific factors. Individual pupils show great variations with respect to specific topics within any course, depending on their particular past experience and interests, and on their emotional responses to the teacher and other members of the class. Thus, even when they are satisfactorily grouped for, say, oral reading, they will show considerable heterogeneity in silent reading or spelling, let alone in nonrelated subjects. . . .

CONCLUSIONS

What conclusions can we come to then? No evaluation of the various mechanisms of acceleration that have been, or are being, tried out in America, such as grade-skipping, advanced standing, and the shortening of courses through enriched programs will be made here. But the evidence does seem to point to the desirability of some form of grouping, such as indeed already exists in many American high schools. Nevertheless, there are many dangers in introducing anything that implies competitive selection or stereotyping of ability levels.

It is, therefore, preferable to keep to grouping by age, and later by interest, as far as possible. Up until about nine years of age or the fourth grade, there would seem to be no good case for any ability grouping other than segregation of the lower-grade feebleminded, the physically handicapped, and, perhaps, temporary remedial classes for the higher-grade defectives and the very backward.

However, by the age of about 13 or the eighth grade, the range and complexity of abilities *appear* to have become much wider. It is doubtful how satisfactorily we can measure range of ability in any absolute sense even at this age. But everybody can't go on studying everything, and, in the interests of professional and vocational objectives, some specialization should begin to be introduced. Hence, some degree of grouping by general ability, and to an increasing extent by interest, would seem legitimate.

While it is true that many thinkers strongly deprecate early specialization, surely its dangers should be balanced against the waste of productive years which results at present from the late postponement of any specialization. Between the fourth and eighth grades one can only suggest that the curriculum be largely of an exploratory or diagnostic character, designed not merely to provide essential skills, but to stimulate general mental development and to provide experience out of which interests can be built.

Even when grouping is introduced, there should be sufficient overlapping between groups to make transfer up or down easy, and, of course, sufficient common activities in a school or college to discourage the formation of barriers. In other words, the process should be one of gradual approximation in accordance with the principles of educational guidance rather than one of selection of irreversible decision.

Inevitably this is a vague kind of framework and the psychologist must always remember that his prescriptions are liable to be upset by social prejudices and traditions, financial shortages, increasing birth rates, and innumerable other factors. The American type of school organization seems to meet the prescription set forth here more nearly than does the British, though it may, of course, show weaknesses in other respects. Some means should be devised of giving greater and earlier recognition to individual differences in general educability and of avoiding, if possible, some of the mistakes that have arisen in England as a result of the strangle hold of tradition. . . .

Current Trends and Practices in the Education of the Mentally Retarded

Marion J. Erickson[2]

The education of mentally retarded children has become increasingly the responsibility of our public schools. How can the schools best respond to the task of helping these children develop into socially and economically useful adults? The article below examines the studies that have been made of the varying approaches to the education of the mentally retarded within the framework of the public school system.

The education of the mentally retarded which was once considered the responsibility of the home or the institution is now generally recognized as a function of the public school system. Compulsory education laws have tended to bring into the schools children who previously would have been regarded as unfit and unable to profit from a public school education.

Studies have shown that while many mentally retarded children are unable to profit from the program offered to the normal child, they are able to benefit from a program adapted to their abilities and developmental patterns. It has been estimated that 1.5 to 2 per cent of the general population will fall into the category of educable mentally retarded and an additional 0.3 to 0.5 per cent will be classified as severely retarded. The educable mentally retarded child is generally defined as one who is potentially socially, economically and personally competent, while the severely retarded is considered as trainable but unable to profit from academic experiences. It has been recognized that the mentally retarded children cannot learn as much or as fast as the normal children and that an attempt must be made to offer them the experiences most essential to equip them to become contributing members of our society.

---

[2] from Educational Administration and Supervision, Vol. 22, No. 5, Sept. 1958, pp. 297-308.

It has been shown by numerous studies that with appropriate education and guidance the mentally retarded have been able to achieve greater economic independence, to become more socially competent, to deal more adequately with personal problems and to develop more wholesome activities and interests leading to a fuller life. Providing an education that will enable the mentally retarded person to become partially or totally independent is a better investment for society than life-long care in an institution or home.

To facilitate the establishment of special programs for the mentally retarded all forty-eight states have passed legislation providing for special classes and forty-six states have provided some form of financial reimbursement.

Initiating new services into a school program requires considerable study to become acquainted with the research and the results of experimentation with different programs. A survey of the literature for the past twelve years reveals certain trends and practices that may prove helpful to the administrator who is considering a special education program. Some practices meet with widespread agreement; others are controversial. Where controversy exists, an attempt will be made to present the various viewpoints.

AIMS AND OBJECTIVES

The universal acceptance of the aims and objectives of education for the mentally retarded establishes them as the basis for the organization and planning of special education programs. The goals listed by the Education Policies Commission are:

(a) self realization or personal development embodying the individual's use of tools of learning, his health, his cultural and recreational interests and his personal philosophy,

(b) an understanding of human relationships as a member of the family and community,

(c) economic efficiency as a producer and consumer,

(d) civic responsibility in local, state and national government and the concern for people of other nations.

PROGRAMS IN OPERATION

At present there seems to be no conclusive evidence that any one program is best for the mentally retarded. Most of the programs described in the literature fall into three common types of organization: the special room, the consultant service and the regular grade.

The program which seems most adequate for the larger school system is that of the homogeneous special class which has been grouped in some way for more efficient instruction. The class is generally located in a regular school where pupils are given many opportunities to participate in the activities of the school. The classes are generally limited in size from twelve to eighteen pupils per teacher.

Organization of a complete program, according to Kirk and Johnson should include the following groups:

(a) The pre-school class for children under age six with mental ages between two and four. The purpose of the pre-school class is to develop mental and social abilities during the formative years.

(b) The primary class for children whose ages are six to nine or ten, with mental ages of three to six and a half. The purpose of the primary group is to continue social and mental development and to provide readiness activities.

(c) The intermediate class should consist of children of ages ten, eleven, twelve and possibly thirteen, depending upon their mental and social abilities. Mental ages will range from six through eight or nine years. In this group emphasis is placed upon social growth and the development of skills.

(d) The secondary class for ages thirteen through sixteen or eighteen with mental ages of eight to twelve. The program is designed to teach social living with the emphasis on home, vocational and social efficiency.

(e) The post-school period is to provide the guidance and supervision necessary to the individual's adjustment to society.

While many schools have organized classes to accommodate the different age levels, few report the complete program suggested above.

The special school for the purpose of handling all retarded children in one building is becoming obsolete. The reasons are obvious when we consider the pupil's need for participation in activities with non-handicapped children.

The ungraded special class in which all ages from six to sixteen are enrolled may be the only solution possible in the smaller school system where there are not enough pupils to group chronologically. The teacher in this situation will usually find it advisable to group the pupils within the class. . . .

Some systems report success with the consultant program in which a trained person may be employed who will act as a consultant to regular classroom teachers who may have mentally retarded children in their classes. The consultant is responsible for helping the classroom teacher set up an educational program for the retarded pupil and suggesting materials and methods to facilitate his learning.

Other schools are attempting to make adjustments to accommodate the mentally retarded pupils in the regular classroom. This program may operate in a number of ways. Retarded pupils may be assigned to a special teacher for part of the day and then returned to regular classes for the remainder of the time, or the pupil may be assigned to a regular teacher who is interested in his problems with the size of the class reduced to allow time for more individual help. The retarded children are sometimes placed in a group of educationally retarded children or others who are not adjusting to their school situations and are given remedial help and individual attention.

Within each type of organization are found variations to meet local situations. An evaluation of the different plans cannot be attempted without considering the many factors that enter into the organization and administration of the programs.

ADVANTAGES AND DISADVANTAGES OF EACH TYPE OF PROGRAM

Considerable controversy has arisen over the problem of segregated classes versus regular classes for the mentally retarded. Many of the arguments are based upon the social and psychological effects of segregation and are generally the result of personal opinion and observation rather than research. At the 1946 convention of the International Council for Exceptional Children the question of segregation was the subject of a panel discussion. While none of the panel members offered any supporting evidence other than personal opinion and observation, Shattuck reports that the general opinion of the group was that it is best not to segregate an individual if he can receive as good or better training in a normal group even though it may be necessary to give special help. The exception is encountered when the detriment to the interests of the group outweighs the benefit derived by the individual from his association with the regular group.

Studies to determine the social effects of placement for the mentally retarded have been conducted by Johnson, and Johnson and Kirk. Johnson, in his study of the status of mentally retarded pupils in a regular class, concluded that the mentally retarded pupils are isolated and rejected and that social segregation is quite complete. In the follow-up study by Johnson and Kirk they sought to determine whether the same pattern of isolation and rejection would be present in a progressive school where social development was emphasized. The results of the study showed that the pattern was very similar to the first study.

Johnson reports that studies comparing school achievement and social development of special-class mentally-retarded pupils with those in regular classes have been inconclusive. He states that while there is agreement between those who advocate segregation and those who oppose it that, in order for the child to make a satisfactory adjustment, the school environment must be adjusted to the child's physical and mental limitations. There is disagreement on how to carry out such a program.

Mullen describes a three-year study now being conducted in the Chicago Public Schools with one of its purposes that of studying the effectiveness of special class organization. A comparison of the progress of the educable mentally retarded pupils in special classes with an equated group who remain in regular classes is expected to provide further information on the subject of class organization for the retarded.

Arguments offered in favor of special classes are:

(a) They serve both the needs and the abilities by offering a more functional curriculum.

(b) The special class teacher is trained to understand the problems of the exceptional child.

(c) Mentally retarded pupils have greater opportunities for success when they are placed with pupils who are nearer their own level.

(d) Special equipment and facilities not generally found in the regular classroom are needed to facilitate learning for the mentally retarded.

(e) The regular classroom teacher can handle a larger class if the retarded children are removed.

In regard to the consultant program the following points should be considered:

(a) The consultant can serve the small school that does not have enough pupils for a special class.

(b) The consultant can serve a greater number of pupils than the special class.

(c) The consultant can tutor, but cannot offer the special curriculum needed by the retarded child.

(d) The success of the program depends too much upon the ability of the consultant to sell the program to the rest of the school.

The argument commonly offered regarding the expense of the special class is minimized by Wallin who considers that repeating grades is an expensive practice and also contends that from the standpoint of social and vocational returns the special class represents an economic investment for society. Kirk and Johnson suggest that when mentally retarded children are kept in the regular classes the class size should be reduced to about half the ordinary number which is also an expensive practice.

Before any conclusions can be drawn regarding the most advantageous placement of the mentally retarded, further studies must be made in all areas of the education of the retarded child.

SELECTION OF PUPILS

Great care must be taken to admit only those children for whom the special class was intended. The only way to avoid errors in placement is to require adequate examinations before placement is authorized and to establish and enforce definite admission standards.

Most of the studies in the field of selection advocate a procedure similar to the one suggested by Kelly and Stevens in which the teacher makes the initial evaluation in terms of group standards. The second step is a group intelligence test which should be carefully selected and administered. The classroom teacher may need assistance in the selection of the test and the interpretation of the results. The educational and cumulative records should provide information concerning the child's past performance. A case history of pertinent data in the child's background is also of value in making a diagnosis. If the findings on the tests corroborate the school record of educational maladjustment, an individual examination by a qualified psychologist or diagnostician is advised. The psychologist, with the help of all available data, should be the one to make the diagnosis and recommend the program that will best fit the needs of the child. Some states furnish statewide diagnostic services for small communities.

Most programs make use of a screening committee composed of specialized school personnel such as the psychologist, the nurse, the curriculum consultant, the principal, the visiting teacher, the teacher and other appropriate personnel whose purpose is to develop an educational plan for each pupil and to decide when pupils are ready to be returned to regular classes.

RANGE OF PROGRAMS

Several significant trends in the direction of extending special services have been noted. The primary and intermediate classes have been the ones most commonly established in the past. In recent years there has been an increasing tendency to extend provisions to include pre-school and secondary school programs and classes for the severely retarded pupils. Kirk and Sloan have experimented with pre-school mentally retarded children in an effort to determine the value of early education for the mentally retarded. Both studies report encouraging results, especially in the area of social maturity.

While the problem of the mentally retarded has long been a concern of the elementary school, it is becoming increasingly acute in the secondary school. The present upward trend in holding power of students and the general increase in school population has awakened schools to the need for extending the program upward. Hegge presents arguments for continuing the special classes into the high schools. He contends that many of the retarded children continue to grow after age sixteen; others mature to the point of making better use of their learning. Remaining in school provides the opportunity to cultivate new areas of interest. The very slowness of the mentally retarded indicates the need for more time to educate them.

Dawe points out that the junior high school program should seek to improve basic skills and provide practical situations for their use, and should provide pre-vocational information to prepare the student for the more definitive instruction he is to receive in high school.

The attempts of high schools to adapt instruction to the mentally retarded pupils consist of various practices. Connelly summarizes the procedures as:

(a) Some schools attempt to meet all needs in a heterogeneous class.

(b) Some, using records of past performance and results of systematic testing to identify slow learners, group pupils for instruction.

(c) The intellectually slow group may be assigned to special sections in academic subjects with the balance of the day spent in regular classes.

Connelly states that there is a slowly emerging trend for the mentally retarded pupils to be assigned to one teacher for the major portion of the school day where they are taught by highly individualized methods. . . .

The District of Columbia reports a tailoring of instruction and curriculum to fit discovered needs by offering a four-track program in the senior high schools. The retarded pupils follow a program known as the basic curriculum which is designed for students who are below sixth grade level in reading and arithmetic. The basic sequence may be followed to graduation if the pupil is unable to remove his educational deficiencies. This system allows the mentally retarded student to complete four years of high school education.

The organization of classes for the severely retarded has gained impetus in recent years as a result of pressure brought about by parent groups whose children have been excluded from school because of low ability. The parents and some educators argue that although the child may be considered uneducable, he may still be trainable in a practical sense and should therefore be helped by the school to realize his potential. Several states have recently accepted this broader definition of their responsibility and have passed legislation providing public school facilities for the lower groups.

A number of studies have been conducted in the effort to discover more efficient ways of handling classes for the severely retarded. In 1951 a survey was conducted by a committee of the National Association for Retarded Children in the effort to determine the status of day classes for the severely retarded throughout the nation. Results of the survey revealed that classes have been supported by parent groups, local school systems, with or without state subsidy, or by private individuals who charge tuition. Criteria for selection generally was that the child be ambulatory, toilet trained, see and hear, show some readiness for training and be reasonably free from anti-social behavior. In a survey conducted in 1953 of the status of classes for the severely retarded, the superintendents of major cities of the United States were requested to describe provisions in their schools for children with IQ's under 50. The practices were found to be so varied that no summary was made. Nisonger concludes from the study made by the American Association on Mental Deficiency in 1954 on the status of community training facilities for children with severe mental retardation that the establishment of facilities is a movement with great force and that statewide programs are expanding rapidly. He reports also that there is considerable uncertainty in areas concerning programs, public school participation and financing, and administrative responsibility.

Hill advises that in view of the many problems that are involved in establishing classes for severely retarded children and the limited experiences that may be drawn upon in planning new services that it may be desirable that the public schools should venture slowly into this field of education. He also suggests that a limited number of pilot or experimental programs be developed.

CURRICULUM FOR SPECIAL CLASSES

The curriculum for the special class has tended to be functional and to place emphasis upon serving present and future needs of the pupil. Martens states that the aims of special education require that curriculum emphasis be placed upon:

(a) education in keeping with the capacities, limitations and interests of each child,

(b) education for some participation in the world's work,

(c) education for healthful living and wholesome social experiences, and that the education be so planned that at the time that a pupil leaves school at the age of sixteen or eighteen he will have had the type of practical experiences needed to help him to live better as a citizen, worker and parent.

While many of the reports indicate a "watered down curriculum," another group tends definitely to depart from this practice. Stress on social adjustment is reflected in many reports. . . .

PARENT AND COMMUNITY RELATIONS

The rôles of the parent and the community should not be overlooked in the planning of special education facilities. Acceptance of the program cannot be expected without the understanding that comes as a result of parent and public education. . . . Coleman describes a program which is quite typical of the parent group programs in which the emphasis is upon home and school activities. Motion pictures and talks by local authorities on various phases of child development help to acquaint the parents with various aspects of their problem. Discussions aid in correcting many misconceptions concerning mental retardation and help parents to develop a realistic attitude toward the child. Weingold discusses the trend of parent groups to take the initiative in developing services for their children in the areas of clinics, pre-school kindergartens, coöperative classes, sheltered workshops, after-school social activities, research projects and scholarships, and better state schools.

CONCLUSIONS

While there is an abundance of material describing practices in the education of the mentally retarded, there is a paucity of research that provides conclusive answers to the problems of special education. There seems to be general agreement on the philosophy, goals, curriculum and methods of special education. The procedures for screening and placement are generally uniform.

Considerable controversy exists in the areas of class organization, social and academic effects of segregation, and the age and ability range to be included in the school programs.

Only through continued study and research with the coöperation of all agencies in the fields of education, psychology, medicine and social agencies can we hope to resolve these points of controversy and achieve an adequate program for the mentally retarded.

The Function of Theory in Programs for the Gifted

Virgil S. Ward[3]

Belatedly, though increasingly, those concerned with education are recognizing the challenge of educating our most gifted children. The pressing need for the contributions of the gifted to society is undeniable. The problems of creating maximum educational opportunity within the school setting are difficult. The author of the following article analyzes the factors involved in what he considers to be our failure to meet the challenge of educating our most able children and youth.

Seldom in the history of American education has an emergent movement enjoyed so solid a combination of supporting influences as has the present active concern for the education of gifted children and youth. The idea of the proper education of those most wholly educable stimulates a happy confluence of thought and care on the part of citizens, parents, and professional educators. Among the citizenry, there is a growing willingness to concede that the democratic precept of equality of opportunity cannot be attained through identical provisions for all. Parents display increasing willingness to accept perceivable differences among their children and to provide accordingly. Professionals who are dedicated to the study of human development through formal schooling are aligned in this endeavor, as in few others, with students of those arts and sciences that comprise the stuff of general education. Guidance personnel vie with special educators in an attempt to individualize the school program for the benefit of brighter youngsters. And underneath it all lies the anxiety associated with our comparative position in a complex world and the urgency of effectively educating our future scientists and social leaders.

Yet it is apparent that during the decade in which these enabling circumstances have existed, the American school has not risen to its challenge or its opportunity. There are in contemporary efforts toward special education for the gifted glaring inadequacies, misconceptions, and inconsistencies. These deficiencies in measuring to the demands of the task exist in practically every phase of educational operations—at the level of conceptualization, in which conflicting definitions and plainly mistaken notions frequently occur; at the level of program organization and administration, in which piecemeal and patchwork endeavors fail to integrate into a sensibly patterned whole; and at the level of the curriculum, in which rigidity and impoverishment of imagination characterize the usual modifications of traditional school subjects. And unquestionably worse than those whose endeavors are incomplete and inadequate are those indeterminate numbers of local school systems across the nation that have as yet to develop any kind of recognizable features which qualify as directly pertinent to the distinctive traits of the gifted. We label this semi-chaotic state of affairs as an incipient failure of an educational movement unparalleled in potential significance.

NEED FOR THEORY

The purpose of the present article is to explore the role in this unfortunate state of affairs of a single factor, the absence of a derived theory of educational experience from which effective practices may be deduced. An attempt will be made to delineate the elements from which a differential theory of education for the intellectually superior is properly derived, to sketch the nature of such a theory, and to explain through contrasting present inadequacies with more ideal practices how consistent reference to theory of this sort can make the difference between practice that meets and practice that fails the exacting objectives of extraordinary education for youth of extraordinary ability.

---

[3] from Teachers College Record, Vol. 62, No. 7, Apr. 1961, pp. 532-539. Reprinted by permission of author and publisher.

Insofar as the literature on the gifted divides into that concerned with the person and the nature of his abilities, that treating the diverse means for programming special school provisions, and that concentrating upon the curriculum through which the person is developed, our concern here is predominantly with the curriculum. We appear to be more sufficient in knowledge about the gifted person than in knowledge of the nature of instructional processes appropriate to the qualities which distinguished him from the generality of his fellows. In the present treatment, however, the application of theory to both program and curricular content and method will be illustrated.

As the character of this work is critical, perhaps a word of explanation at this point is in order. It is awkward to review sincere efforts, often carried out against heavy odds, and to emphasize deficiencies. One thus places oneself in the position of attacking persons and institutions that have risen above others in courage, concern, and capacity. It is axiomatic, however, that reflective examination and judgment, even if harshness is required, are essential to future wisdom. This conviction is one of the bases of the present analysis.

SOURCES OF THEORY

Education in general may be characterized as a process in which the potential of the biological organism for perceptual, conceptual, and rational processes is developed against such elements of the natural and social environments as the value system of a given society defines as desirable for the species. Thus, all children in the American school are put through their paces within a sequence of experiences geared primarily to the capacities and needs of the modal number of individuals in the middle range of learning capacity. Graded text materials, general principles in the art and science of teaching, and school facilities are focused upon how and what the middle mass of persons have demonstrated that they can learn and do when deployed in the usual manner in the usual school programs.

Historically, as the behavioral sciences came more firmly to grips with the nature of mental differences, the democratic ideal lent itself readily to adaptation of the general school curriculum downward and inward so that the needs and capacities of children with *handicaps* could be more helpfully dealt with. Current endeavors in the interest of brighter youth reflect a much belated realization of the same significance of individual differences at the *upper* end of ability scales. We are presently engaged in a trial-and-error process of arriving at a sequence of developmental experiences suited to the fulfillment of moderately and markedly deviant behavior potentials in childhood, recognizing those equally deviant roles in adulthood toward which the early potentials tend to lead.

But simple try-and-see endeavors ignore man's ability to eliminate error through reason. The contention here is that school men are not taking full account of such facts as exist in working toward educational practices which involve and develop those characteristics that distinguish the gifted as a group. Through Lewis M. Terman's *Genetic Studies of Genius* and several minor studies which were essentially corroborative, we know far more about gifted youth—their capacities, interests, personality traits—than we apply in school practice. And we know that the positive behavioral deviations which characterize gifted youth tend to find outlets in particularized social roles as adults—leadership on virtually all cultural fronts and a reconstruction of rather than adjustment to the status quo. Moreover, there is an unusual social readiness to sanction major transformations in school routines to achieve a more adequate combination of experiences for developing persons with great inherent abilities.

What has not been done is to weave these various threads of existing understandings into an ideational compound directly applicable to special education for the gifted. The facts just indicated about gifted persons are almost enough to construct a disciplined educational theory against which specific school practices may be logically assessed before they are tested empirically. That some emergent practices do appear consistent with these facts is at present simply happy circumstance. That so many practices purportedly designed for the gifted fail to parallel these differentiating characteristics and needs of the person makes it mandatory that some criterion frame of reference be devised which will eliminate much of the waste and error and confusion before it happens. This is the function of what is here called a differential theory of education or of educational experience.

A DIFFERENTIAL THEORY

Although the development of a comprehensive set of criteria of this sort has been of concern for a number of years the purpose here is simply to suggest the general form of an appropriate theory as a background for an analysis of the transformations which can occur in school provisions for the gifted where conscious efforts to meet . . . criteria are maintained.

We have noted that gifted persons are distinguishable from the generality in several modalities of mind or personality. In *capacity for learning*, they are faster, more accurate, and more independent. They can learn for themselves what others must be taught. In *capacity for thought*, they exercise more fully the entire range of higher mental processes. Spontaneous movements tend to occur from the concrete, descriptive, and immediate level of things toward judgments, concepts of cause, and an appreciation of the dynamics of change. In short, intellectually superior persons tend to think not within the framework of the present and known, but underneath and beyond it. In *motivation or drive*, they tend to be intrinsically interested in the abstractions derived from natural phenomena, and they are self-motivated in situations where there is an opportunity for conceptual learning. As a consequence of these enduring predispositions and tendencies, they tend to acquire relatively vast expanses of knowledge about natural events and social affairs. While there may be selected peaks around which special interests and aptitudes combine to make for exceptionally great understandings or skills, the intellectually superior person tends to be *broad rather than narrow* in his mental perspectives. Now, what do these facts mean for the educative process? . . .

Play these facts against the acknowledged cultural relativity of the whole educational enterprise, and the essential elements of a differential theory of education for the gifted are at hand. What are the most effective processes through which youngsters of high learning ability, destined for adult roles of leadership, can be brought into contact with the arts and sciences and with a sample of manners, morals, and human relationships in a way that optimally ripens their exceptional potential? The posing of this question emphasizes the requirement that an adequate theory integrate (a) a conception of pedagogical and curricular *process*, (b) a view of the cultural *content* available for educational purposes and how proper selections can be made from it, and (c) an understanding of the perceptual, conceptual, and rational capacities of the intellectually superior as a *special group*. From such an integrative theory can be deduced practices and programs suited to the gifted and only to the gifted. Empirical testing remains, of course, the court of final judgment; but appropriate theory serves as a kind of screen to determine what cases are worth testing, just as it provides the essential criteria for the test.

THEORY IN PRACTICE

First, there are certain conceptions, explicitly held or implied in practice, about the nature of giftedness or the nature of the education of gifted persons. The "academically talented" is a phrase popularized within the past two or three years by a project of the National Education Association. Much of the literature emerging under the auspices of this project is based squarely upon standard practices in school organization and curriculum. *Slight* modifications of the accustomed regimen appear to be all that is necessary. Thus, *some* acceleration is feasible; *some* ability grouping appears advantageous, and *some* subject matter displacement promises better effects. The general tenor of recommendations follows this kind of logic: "Instruction in math is good; the gifted can learn more of it; therefore, require two years of them instead of one." In language, the requirement of three or four years in those languages already in vogue seems to suffice; and in the natural sciences, again, mere additions to the length of experience or slight disarrangement in grade placement of subject matter seem to suit the purpose. The academically talented youngster, by way of definition, is seen as one who can handle "five solid subjects."

This is an impoverished conception of giftedness, and the experiences indicated are but pale reflections of those commensurate to the task of realistically developing superior deposits of biological capacity within the context of drastically altered technological, ideological and social worlds. Rather, a differentiated theory of education calls not for reference to present practices, but to practices not yet existent and possibly not yet dreamed of, but possible and practicable in view of the deviant learning potential and anticipated social role of the gifted. Untapped areas and levels of knowledge, untried patterns of school organization, and unaccustomed types of teaching are demanded by the challenge and opportunity. In terms of curriculum, the point of departure should be the whole range of knowledge, rather than the limited fragments which served a century ago; and in terms of process, independent learning should be encouraged so that instruction can focus on subtleties and complexities not readily resolved or mastered by even a superior young learner.

Another failure to conceive properly the educative process shows in the substitution of simple toughness for complexities inherent in higher levels of abstraction or deeper levels of penetration into the nature and origins of things. Some teachers are capitalizing upon the sentiment for improvement by simply grading pupil achievement more strictly and more arbitrarily, with little attention at all to instructional alterations which might lead to a higher quality of understanding. The mere imposition of arbitrary standards can cover for poor teaching and result in unfortunate stress within youngsters who are already doing essentially all they can do. Longer assignments and more exacting memorization and copy work are usually antithetical to the needs of the gifted, not conducive to their optimum development. Theory suggests different kinds of content and different kinds of expectations on the part of pupils, differences which respect the dimensions of experience open only to those of superior intellectual endowment.

Part of the same tendency of school men to remain within the bonds of traditionalism is the thick atmosphere of competitive test-mindedness which one feels in certain schools with a high percentage of college-bound students. It must be remembered that college is not an end for instruction in the secondary school, any more than the secondary school is an end toward which elementary instruction is geared. Altered conceptions of the educative process should pertain distinctively to all these graded steps on the American school ladder. It is vicious that tightened college admissions should be misused to stifle curricular developments of the imaginative sort needed. Quantitative gains in measured subject matter are not a substitute for qualitative gains in depth and breadth of understanding not presently represented in many standardized indices in common use.

ORGANIZATION

On the organizational side, a sound differential theory suggests a comprehensive pattern of varied arrangements, rather than modifications of a single type. No mere administrative re-arrangements are likely to be sufficient. Yet in school after school across the nation, the practice of acceleration is reported as a *program* for the gifted. This misconception characterizes the rapidly increasing Advanced Placement Program, which at heart simply accelerates the student through standard courses of study. And if the single feature of the local school program is not acceleration, then ability grouping or early admission may be offered as a whole program. Nor do the availability of algebra in the eighth grade (even for credit, if that debate has been won!) nor the omission of eighth grade general science measure up to the demands of a full organizational pattern for the experience which gifted youth need as proper education.

Equally lamentable are entries with some well conceived feature, selectively applied in given schools, given grade levels, or given subjects, but not made available for bright students across the schools. Thus, one may find "partial segregation" practiced at grade five, but not earlier. A seminar type of discussion, with open-ended exploration of problems and issues related to academic disciplines but not treated in graded textbooks, may be provided through insistent urging by a single figure in one school, with this potential remaining coolly ignored by all other schools within the community. And at the senior year of high school, "independent research" in the natural sciences may frequently be found as a filler for the gap left by unplanned earlier tampering. But why not independent research into problems of a sociological or psychological nature? And why not independent research earlier? Similarly, the nature of whatever advanced electives that are available is frequently contingent upon the accidental availability of teachers or community residents. Sound theory suggests systematic and comprehensive programming at every level in the child's development for every qualified child in the community, and in every aspect of learning where superior integrative or expressive capacity exists. Piecemeal efforts and patchwork programming do not substitute for whole cloth.

CURRICULUM AND METHODS

Thus, curricular thought with respect to the gifted is a little like yesterday's bread, a trifle stale. No breakthrough has occurred, except in a rare island of excellence here or there, in conceptions of how the biological potential of well-endowed youngsters is transmuted into a functioning human being of a superior kind. Again, we find thought of this character: "History is good education; therefore, more history for the superior learner." High learning potential, on the other hand, we have noted, tends toward thought underneath and beyond descriptive representations. The proper study of history, a differential theory suggests, should include studies about history as a form of human endeavor—its basic nature, its possible interpretations and analyses, its techniques, and its sources of validation. Whenever particularized records of nations or movements are examined, concrete events should be isolated to illustrate the dynamics which led to them, and study should be directed toward the discovery of regularities which pertain to historical phenomena as such. And as to organization, the usual chronological order of presentation should be conceived as only one possible approach, certainly to be varied with others equally as valid and probably more transferable. Such "enrichment" in history should be paralleled in other subjects as well. Generic theory suggests *systematic* and *comprehensive* enrichment in all subjects, rather than in those which by accident or through expediency come up for scrutiny.

And of equal importance is the realization, again indicated among the guiding principles, that those academic disciplines which in yesteryear were a fair and representative sampling of man's heritage of wisdom are today but isolated fragments in a richly expanded body of art, science, and morality. It has never seemed clear why history should be a basic school subject, but not sociology; chemistry, but not astronomy; mechanics of speech and writing, but not logic, and fiction but not philosophy. Incontinent quantities of knowledge have been unfolded, not yet represented in the school curriculum. For those who can embrace larger expanses, it is proper that these be deliberately incorporated into the curricular structure.

Nor may instructional methodology escape attention in this vein. Indiscriminate labeling of practically any kind of usage has at one time or another been hailed as that something "extra" for the gifted student. The re-discovery of typically "progressive" modes of directing learning activities sometimes is signalled as just the thing. And instructional practices ranging from formal lectures in the secondary school to unit planning by teachers and pupils have in turn come to the fore as promising suggestions. But methods, too, should be disciplined by theory. Some pertain to the distinctive abilities of the gifted; some do not. Inverse ratios of teaching to learning are suggested by a theory which takes account of the superior learner's capacity to acquire for himself much of what has traditionally been taught. And the content for discussion in whatever subject matter must quickly transcend the descriptive level and move toward the problematic and indeterminate phases where genuine thought can be actively engaged. To teach what is not known for sure can be far more appropriate education for abler students than dull and often obsolescent "certainties."

CONCLUSION

So much for an examination of the nature of deficiencies in the present movement of education for the gifted and for illustrations of how an intermediate body of theory, standing between psychological and biological fact and educational practice, can make a contributive difference. Our needs for the cultivation of the human abilities represented by our superior children are too great to require underscoring. The challenge of educating with maximum effectiveness our most educable youngsters is, in at least one vital sense, that of translating into imaginative and planned educational practice the knowledge of distinctively superior children and of the learning process available from the behavioral sciences.

This job of translation clearly demands a familiarity with facts and ideas and the support of enterprises likely to uncover more facts and to produce a richer stock of useful notions. More importantly, however, it requires inventiveness and sustained effort to apply the knowledge at hand in an integrated way to all levels of the educational sequence, harnessing over time the potential contributions of curriculum planning, administration and organization, and methods of instruction in the light of our understanding of the gifted youngster, his needs, and his potential place in a free society. A differential theory of education for the superior must draw heavily on the behavioral sciences, but it must remain an *educational* theory. . . .

The Reading Ability of High School Students

Warren A. Ketcham[4]

Reading is the foundation for most learning experiences in high school. Unfortunately, reading generally has been considered the responsibility of the elementary schools. The author points out the need for awareness of the problems of reading ability and reading improvement on the secondary level. He seeks to answer the question of how teachers can cope with the range of reading abilities to be found in any classroom.

Much of the widespread public and professional interest in the teaching of reading is focused on elementary school pupils. The reading ability of high school students is frequently criticized, but rarely studied. The reason is apparent. The teaching of reading is viewed as the exclusive responsibility of the elementary school. The viewpoint is so prevalent and so strong that the teaching of reading in high school is invariably labelled "remedial," and offering it to students is interpreted as an admission that teachers in the lower grades have done an inferior job. Consequently, the collection of objective data on the reading ability of high school students has been neglected. The oversight continues to be a vital factor in the delay of needed improvements in secondary school practices.

---

[4] from University of Michigan School of Education Bulletin, Vol. 30, Jan. 1959, pp. 73-76. Reprinted by permission of the Editor.

At the University School (laboratory school of the School of Education) the reading ability of all high school students is tested yearly. The results provide data regarding the level, range, and growth of reading ability among students. The present discussion concerns a group of 71 University High School seniors who were enrolled continuously in grades nine through twelve. Their average consecutive reading grade levels are presented in Table I. In each grade the average reading ability was more than a full grade level above the norm. This is the kind of reading ability many high school teachers dream of having among their students. What is the possibility? Very good, under one condition. Teachers must have students with mental ability similar to that of students at the University School. The average Wechsler-Bellvue I.Q. of the sample of University High School students was 119. The average Wechsler-Bellvue I.Q. of students in many high schools is approximately 100.

TABLE I Average reading grade level for grades nine through twelve

Grade	Reading Grade Level
Twelve	13.2
Eleven	12.7
Ten	11.8
Nine	10.4

More important to the high school teacher than the average reading ability of his students is their range of reading ability levels. The data in Table II indicate that, accompanying the general high reading ability of University High School students, there was a wide range of individual differences. There were twelve grade levels of reading ability in grade nine and thirteen in each of the other grades. Even if the small number of extremely low cases were ignored in grades eleven and twelve, eight levels remained. The range of differences was so great that 7 percent of the students in the ninth grade had higher reading ability than 56 percent of their classmates had three years later as twelfth graders. As in the case of the general high reading ability, differences in mental ability provide the best single reason for the range of differences in reading ability among the University High School students. The lowest Wechsler-Bellvue I.Q. in the group was 87, while the highest was 147. Six students had I.Q.'s in the 85-100 range, while five students had I.Q.'s in the 140-147 range. Forty-eight (67 percent) of the students had I.Q.'s in the 110-129 range. Only 23 percent of all persons of high school age have Wechsler-Bellevue I.Q.'s in that range.

TABLE II Distributions of reading ability in grades nine through twelve

Reading Grade Level	Reading-Level Frequency Distribution for Grade			
	Nine	Ten	Eleven	Twelve
16	0	1	3	6
15	2	4	10	8
14	3	4	7	17
13	0	7	12	14
12	12	18	17	10
11	12	16	13	5
10	16	9	3	6
9	10	7	3	3
8	7	1	1	0
7	4	1	0	1
6	2	0	1	0
5	1	2	0	0
4	2	1	1	1

Since reading is seldom taught in high school, it is often assumed that maximum reading ability is achieved during the later grades and that it remains fixed from then on. The data in Table I reveal a very different picture. Average reading ability increased with each advancement to a higher grade. Some details of the increase are both interesting and useful. Only one student (I.Q. 94) showed a loss in reading ability as he progressed from grade nine to grade twelve. He lost one-tenth of a year in grade level. Another student (I.Q. 122) gained 5.3 years in grade level during the three years. One student (I.Q. 147) attained a perfect reading score in grade ten and as a result his progress was not measured by the test beyond that point. Four students (I.Q.'s 113, 122, 127, 128) showed spurts in reading growth by which they moved from a full year below grade in ninth grade to a full year above grade in twelfth grade.

In the previous discussion it is implied that the University School testing program would produce very similar data in any high school. The burden of proof for questioning the implication must rest with those who doubt its validity. If the implication is tentatively accepted, the reading ability of high school students can be described as follows: First, the average reading grade level of high school students is closely related to their average level of intelligence. In this respect, many high schools have a lower average reading ability than University High School. Few are higher. Second, irrespective of the general level of intelligence and reading ability in a given high school, the range in reading ability levels in each grade is at least eight and may run as high as thirteen. Third, very few students fail to grow in reading ability while attending high school. Some grow a great deal; some grow very little. A small number (approximately 6 percent) show phenomenal growth, whereby they change from deficient to capable readers. The above picture of reading ability among high school students turns out to be very similar to the picture of reading ability among elementary school pupils. On this basis the reading-related problems of teachers at the secondary level do not appear to be different from those of teachers at the elementary level.

The problem of high school reading ability has existed for a long time. The modern practice of opening high schools to students of all intelligence levels has intensified the problem. The practice has not created the problem. Neither the level nor the diversity of reading ability in high schools are attributable to teaching in the lower grades. The chief problem is the tremendous diversity in learning ability among people and between groups of people. The primary question regarding the problem is not how can teachers eliminate it, but how can they cope with it? A number of policies and practices would help:

1. Anticipate, rather than criticize, the difficulties of many high school students in covering required reading materials.
2. Provide for a wide range of reading levels when selecting study materials for general subject matter areas and for specific topics. Here more advanced materials for bright students are as important as easy materials for students of limited ability.
3. Expect and encourage reading improvement by providing individual and group instruction in reading whenever the opportunity arises. Scanning, vocabulary improvement, and reading for meaning are examples of reading skills which every teacher can help his students improve.
4. Recognize that the percentage of high school students with a severe reading disability is very small and that they are not the source of the teachers' greatest difficulties. Cases of severe reading disability need clinical help, not more or better teaching.

Teaching methods and administrative plans to help teachers cope with the diversity of reading abilities among high school students will come slowly. The chief delay stems from the unwillingness of parents and teachers to consider the nature and magnitude of individual differences among high school students. Education will not eliminate individual differences. It will, if allowed to do so, help young people learn to make the maximum use of their abilities. The result can only be differences in achievement, including the achievement of reading ability.

INTERPRETING THE SELECTIONS

Vernon article

1. How would critics of ability grouping answer Vernon's thesis?

2. Discuss pro and con the statement that "education implies not only individual development but also the training of different individuals to conform to society's patterns of intellectual and social norms."

3. General intelligence, interest, or special ability—which is most important to what aspects of learning? Why?

4. Is interest in a field determined by confidence of success? What other factors determine interest or lack of it? Could you depend upon your own interest patterns for guidance?

5. Do you agree with the author that up to about nine years of age there is no good case for any ability grouping?

Erickson article

1. How would you define the term *mentally retarded*?

2. Which of the three types of programs for the mentally retarded do you favor? For what reasons? What provisions were made in your elementary and secondary schools for the education of the retarded?

3. What are the most important criteria in establishing any program for the mentally retarded?

4. What special skills and training would a teacher need to work effectively with these children?

Ward article

1. How would you define a *gifted learner*?

2. What does the author mean by the phrase "a derived theory of educational experience"?

3. What are the author's criticisms of current programs for the gifted? Do you think special programs for the gifted are as critical as special programs for the retarded?

4. In the schools you attended, what provisions were made for the intellectually superior students?

Ketcham article

1. The author finds that reading ability correlates with mental ability. What other factors might be involved in a student's difficulty with reading performance?

2. Which would you expect to be most useful: providing special materials or providing special help with reading problems?

3. Do all teachers need special training in teaching reading improvement? How might teachers be helped to deal with this problem?

4. This author is preparing a study of students' problems with spelling, which parallels this one on reading. What do you predict the pattern will be?

12 MOTIVATION FOR LEARNING

Expectancy for Eventual Success as a Factor in Problem Solving Behavior

Bonnie B. Tyler[1]

Beyond a competency in his subject field and a knowledge of human development, any teacher needs some understanding of human motivation—why people do what they do. The author of this first selection investigates a key factor in motivation and learning. Is performance in problem solving affected by the performer's expectancy of eventual success or failure? Below is a study with interesting implications for the classroom.

In predicting human learning behavior, two factors usually considered to be most relevant are the difficulty of the task being learned and the amount of experience the individual has had in performing the same or a related task. Another factor seldom investigated, but which may be relevant, is what might be called a "situational" expectancy for solving a specific problem. Such an expectancy might be learned in a situation where there is no possibility of immediate success or failure, a condition which is quite frequently characteristic of real-life situations. That is, in many instances in which the individual is faced with performing any type of task there is some uncertainty as to the eventual outcome; consequently he develops an expectancy ranging from complete certainty of eventual success to complete certainty of eventual failure as he performs the task.

This study was designed to determine if a "situational" expectancy may be established for eventual success or failure in a problem solving situation which in turn affects the individual's performance. The concept of expectancy utilized is derived from a social learning theory of personality developed by Rotter in which he defines expectancy as the "subjective probability held by the individual that a particular reinforcement will occur as a function of, or in relation to, a specific behavior in a given situation or situations." In this study all Ss were exposed individually to the same problem-solving situation and differential expectancies for eventual success in solving this problem were established through the use of different verbal statements.

---

[1] from Journal of Educational Psychology, Vol. 49, No. 3, June 1958, pp. 166-172. Reprinted by permission of author and publisher.

There has been little research which specifically attempts to measure the effect of expectancy for eventual solution of a problem on the actual solution of that problem, although some other areas of investigation may be considered relevant. One group of studies deals with the effect of anxiety on problem solving behavior. Although these studies are not conceptualized in terms of the effect of anxiety on the individual's *expectancy* for solution of a problem, they are relevant in that they are concerned with problem solving behavior under conditions of stress or anxiety which are characterized by a highly probable punishing outcome. . . .

A more specific problem in the area of anxiety and problem solving behavior is the effect of anxiety on performance *time*, which for the present study was conceptualized in terms of the relationship between an expectancy for eventual success or failure and decision time. Especially relevant here is a study by Lotsof who tested the hypothesis that the more punishing the alternatives in a choice situation, the longer the decision time for making a choice. His results indicated a direct relationship between the "unpleasantness" of the reinforcement values of the alternative behaviors in a choice situation and decision time. In the general area of "anxiety" research the consensus seems to be that increased time is required for completing a task under anxiety conditions. . . .

THE PRESENT STUDY

In the present study an attempt was made to test the utility of a concept of expectancy in predicting behavior in a learning situation. It was hypothesized that an expectancy for eventual success in solving a particular problem could be established which would in turn affect whether the problem would be solved. The operation defined for establishment of differential expectancies in this situation was the use of different verbal statements for the Ss in three experimental groups. These included encouragement for one group, discouragement for a second, and a combination of the two for a third group. A control group was given no verbal reinforcement [to avoid] . . . the establishment of differential expectancies for eventual solution of a problem.

In studying expectancy, the usual procedure might be to use practice as the independent variable—that is, to control the S's experience with right and wrong responses—and to predict expectancy on the basis of these differential experiences. In this study this expectancy for *immediate* right or wrong responses was controlled while varying the expectancy developed for *eventual* success or failure. That is, in some situations there may be an eventual goal of discovering the correct solution, as well as the more immediate goal of making a correct response. Here the immediate expectancy for right or wrong responses was controlled in that the average number of correct responses for each group was approximately equal during the training trials.

Specifically, the prediction was that significantly more Ss who received verbal encouragement (i.e., whose expectancy for solving the problem was high) would solve the problem logically than would Ss who received verbal discouragement (i.e., whose expectancy for solving the problem was lower than the encouraged group) or than would Ss who heard no comments (control group). The criterion of a logical solution was met when *S* conceptualized the pattern rather than memorized the series of responses. In addition, it was predicted that the performance of Ss who received both encouragement and discouragement would fall somewhere between that of the encouraged group and the discouraged group. Finally, it was hypothesized that with the establishment of a high or low expectancy for positive reinforcement to occur following a response, the decision time for making each discrete response would vary; or more specifically, that there would be an inverse relationship between the time required for making a response and the expectancy for positive reinforcement to occur in conjunction with that behavior.

METHOD

Several criteria had to be met in selecting a problem. First, the problem had to be a relatively novel one so that expectancies for success or failure would be influenced as little as possible by past experiences. Secondly, the problem had to be of such difficulty that S would be unable to solve it in a designated number of trials. In this way *E* would be able to give the same number of verbal reinforcements to each S, and at the same time control S's practice or experience so that all Ss would have approximately the same number of right responses during the verbally reinforced trials (before the solution was made more available to them). Finally, the problem had to be performed individually because of the variable number of trials required by Ss to solve the problem, and because of the questions asked each S at the completion of the test.

A problem was devised which met the above criteria. It involved an apparatus with two rows of 10 lights each near the top, one row controlled by a row of buttons on one side of the apparatus and the other by another row of buttons on the opposite side of the apparatus. The S sits at one side of the apparatus and controls the lights in the bottom row; *E* sits directly opposite to him and controls the top row of lights. The task for S was to conceptualize the pattern by which *E* was flashing a series of lights. Each trial consisted of S's predicting which light *E* would flash by flashing the corresponding light in his row followed by *E* flashing the correct one in his row of lights. The pattern or series was in three steps, so that the solution was actually "available" once three trials had been completed. As was pointed out earlier, however, the problem was intentionally of such difficulty that it was almost impossible to solve until a hint was given after 30 training trials. (The difficulty level was established in a prestudy group.)

The learning series consisted of 30 training trials, each of which was followed by a verbal statement. The test series consisted of a maximum of 50 test trials, during which no verbal statements were made. At the beginning of the test trials the problem was made easier by providing a hint as to the nature of the mathematical pattern being used. Throughout both the training and test trials S was constantly given information that would aid in the eventual solution by being shown the correct response on each trial, whether he responded correctly or incorrectly.

The three experimental groups were treated as follows:

1. Encouraged group: After each prediction made by S the correct light was flashed and S was encouraged, whether his response was right or wrong. The standard list of encouragements included such remarks as "You're doing fine, it's very confusing at first," etc. Whenever S made a correct response he was told "good."
2. Discouraged group: After each prediction made by S the correct light was flashed and S was discouraged, whether his response was right or wrong. The standard list of discouragements included such remarks as "wrong again, you're not doing very well," etc. For a correct response S was told, "It's about time you got one right." (If a correct response was made in the first five trials, or if there were two consecutive correct responses; where the above would be inappropriate, S was told, "That was just luck.")
3. Inconsistent group: After half of his predictions S was encouraged and after half he was discouraged, whether his response was right or wrong. A standard list of comments was made up in random order from those made to the other two experimental groups.

The Ss in the control group were given no verbal comments during the training trials. They were given the same hint as the experimental groups following the training trials and continued through the test trials with no comments made.

Following the 30 training trials S was stopped and given a hint about the pattern. He was told that the pattern consisted of three steps and involved multiplying by a certain number, subtracting a number, and adding a number, and that the same pattern was repeated over and over. The S was then allowed 50 trials (test period) in which to solve the problem, during which the correct response was shown after each of his predictions but no comments were made. After S had predicted correctly for 10 consecutive trials he was asked to describe the pattern. If he failed, he was allowed to complete the 50 trials. Following his performance each S was asked several questions concerning his reaction to the test situation, the method he used in solving the problem, and his expectancy for being able to solve the problem.

The primary criterion for adequate solution of the problem demanded that S be able to conceptualize the pattern—that is, be able to state the operations involved. However, the data were also analyzed on the basis of a criterion allowing for a memorized solution.

RESULTS AND DISCUSSION

Significant differences between the groups in number solving the problem would indicate the establishment of an expectancy for eventual success, as operationally defined in the present study, and the effect of such an expectancy on behavior in this specific problem solving situation. As shown in Table 1, all of the hypothesized differences occurred in the direction predicted when the criterion for success was a logical solution to the problem. The difference between the encouraged group and the discouraged group was significant beyond the 5% point ($P = .038$), and three other differences approached significance.

TABLE 1 Number of logical solutions by group and statistical comparison of differences

Group	No. Ss Solving Problem	Group 2		Group 3		Group 4	
		χ^2	P	χ^2	P	χ^2	P
Encouraged ($N = 30$)	17	3.30	.04	2.400	.07	.068	.40
Discouraged $N = 30$	10			.074	.39	2.440	.06
Inconsistent $N = 30$	11					1.684	.10
Control $N = 30$	16						

NOTE: Probabilities are stated in terms of probability point since directionality is predicted, thus allowing for the use of a one-tailed test of significance.

It should be noted that there was little difference between the number of Ss in the control group and in the encouraged group who solved the problem, while the difference between the control group and the discouraged group approached significance ($P = .062$), as did the difference between the control group and the inconsistent group ($P = .10$). These results would suggest that individuals performed just as well under conditions where no deliberate attempt was made to establish an expectancy for eventual success as they did under conditions of verbal encouragement or high expectancy for success, and better than under conditions of verbal discouragement or low expectancy for success in solving the problem.

The similarity in performance of Ss in the discouraged group and in the inconsistent group suggests that the use of a combination of encouraging and discouraging statements has about the same effect as the use of discouraging statements alone. In other words, in terms of the operation used here for defining expectancy, it was demonstrated in this situation that a low expectancy for eventual success in solving a problem can be established by intermittent discouragement as readily as by 100% discouragement.

As mentioned earlier, the criterion for success demanded a logical solution to the problem. It was found, however, that some Ss memorized the series of responses and were unable to conceptualize the steps involved in the pattern. Further analysis by groups showed that significantly more Ss in the low expectancy groups attempted to memorize the discrete responses than did Ss in the high expectancy groups. Although the number of memorized solutions was too small to be reliable, these differences between groups in number of Ss resorting to the "lower level" conceptual approach of rote memorization would suggest that with a low expectancy for success S is more likely to resort to a familiar, readily available mode of response rather than to attempt to conceptualize a solution as required in a novel problem solving situation. These differences in approach to problem solving behavior warrant further investigation.

Data relative to the hypothesis predicting an inverse relationship between the decision time required for making a response and the expectancy for positive reinforcement to occur are presented in Tables 2 and 3. It can be seen that differences between the groups in average response time occurred only during the verbally reinforced trials (training period), and that the average decision time was significantly larger for the groups with a low expectancy for positive reinforcement to occur (Groups 2 and 3) than it was for the higher expectancy group (Group 4) as predicted. (An *F* test applied to evaluate the differences between groups during the test trials showed no significant differences.) These results provide a further test of the findings of Lotsof referred to earlier.

Homogeneity of variance was computed for all relevant comparisons using Bartlett's test. The results of none of these tests approached significance.

TABLE 2 Average response time per trial for 30 training trials and for subsequent test trials

Group	Training Trials		Test Trials	
	Time	σ	Time	σ
Encouraged	9.40″	3.689	12.12″	8.463
Discouraged	15.26″	6.260	12.68″	5.718
Inconsistent	14.38″	6.673	12.11″	4.549
Control	9.73″	3.279	12.78″	5.676

TABLE 3 Significance of the difference (*t* test) between groups in average decision time for the training trials

Group	Group 2	Group 3	Group 4
Encouraged	4.346*	3.517*	.5187
Discouraged		.5206	4.2193*
Inconsistent			3.3710*
Control			

* Significant at .01 level.

Comments made during the experiment and in an interview after each S's performance showed that Ss in the discouraged group expressed considerable hostility toward *E* and toward the problem to be solved, as well as toward themselves for failing to solve the problem as quickly as they felt they should. This reaction was also characteristic of the inconsistent group, although it did not occur as frequently as in the discouraged group. There was little expression of hostility in either the encouraged or control groups.

SUMMARY

This study was designed to determine if a "situational" expectancy may be established for eventual success in a problem solving situation which in turn affects the individual's performance. The findings support the hypotheses that: (*a*) Differential performance results from establishing a "situational" expectancy for eventual success or failure which in turn influences an individual's performance in a problem solving situation. (*b*) Encouragement and no comments (control) are both superior to discouragement and to intermittent encouragement and discouragement. (*c*) Significantly more Ss in the low expectancy groups than in the high expectancy group attempt to memorize a solution to the problem in contrast to working out a logical solution. (*d*) There is an inverse relationship between an expectancy for immediate positive reinforcement and the decision time required for making a response.

Future Time Perspective, Optimism, and Academic Achievement

John E. Teahan[2]

All of us frequently are required to work toward remote goals. Goal-directed behavior calls for motivation to work at the moment, even though satisfactions and rewards are delayed for some time. Is there a correlation between an extensive future time perspective and high achievement? The author of the following study examines this question. As in the preceding article, the relationship between optimism and performance is also examined.

Previous studies have indicated that the high academic achiever seems to be characterized by more optimistic attitudes and a greater concern for future goals. The setting up of goals implies a temporal orientation that is geared to the future, since a person's goals imply expectations and anticipations of future successes. High academic achievers might therefore be expected to show an essentially future oriented approach to life, characterized by a time perspective with broader scope than that of the less successful student. Findings of this nature have already emerged from a study by Teahan and Drews in which it was found that intellectually gifted and high achieving junior high school students had a more extensive total time perspective than low achieving students of similar intellectual levels. In the following study, however, only future time perspective was considered. It was hypothesized that high achievers would have a more predominant and extensive future time perspective than low achievers and that a positive relationship would be found between optimism and extensiveness of future time perspective.

METHOD

The subjects (Ss) used in this investigation were 60 seventh- and eighth-grade boys. Thirty Ss (high achievers) had received academic grades in the upper quartile of their classes for the previous two years; the remaining 30 Ss (low achievers) had been in the lower quartile for the same period. Groups were equated for age and for socioeconomic status as determined by rating the occupations of their fathers according to the method developed by Warner, Meeker, and Eells. Intellectual level was measured by the California Primary Mental Maturity Test which was administered in group form. Although no attempt was made to control for differences in intelligence between high achievers (mean IQ 108.3) and low achievers (mean IQ 95.5), the correlations obtained between intellectual level and the various measures of time perspective were found to approach zero in all cases (ranging from very low minus to very low plus correlations).

Three types of instruments were used to measure time perspective. The first of these techniques was originally developed by Eson and consists of asking the S to record 25 things he had thought about or talked about in the past two weeks. S then rated these items according to whether, at the time he had thought or talked about them, they referred to something in the past, present, or future.

The second method, a story-completion technique, was first used by LeShan for collecting data on time perspective. S was required to write a story starting with a partially completed

---

[2] from Journal of Abnormal and Social Psychology, Vol. 50, 1958, pp. 379-380. Reprinted by permission of author and publisher.

statement or series of statements. The following sentences were used in the present investigation: (*a*) At three o'clock one bright sunny afternoon in May, two men were out walking near the edge of town . . . ; (*b*) Joe is having a cup of coffee in a restaurant. He's thinking of the time to come when. . . .

In the third part of the examination, Ss were presented with three TAT cards. These included Card 1 (boy with a violin), Card 12B (boy sitting alone before a cabin), and Card 14 (silhouette of a person in a window). The cards were presented one at a time in this order, and Ss were instructed to "Write a story about this picture."

When the entire testing session was ended, the examiner went over each story (both the story-completions and TATs) with the S, and asked the following questions: "How much time was involved in the action of this story—not in writing it but in the action described? How long would it have all taken if it had really happened?" In addition to this, each TAT story was rated by the examiner on a five-point scale according to the amount of optimism reflected in the outcome. Two other judges re-rated the TAT stories of 33 Ss (16 high and 17 low achievers) in a reliability check of ratings on this variable. The obtained correlations were .85, .91, and .91.

RESULTS

Reliability of future time perspective measures

Of all instruments used, the story-completion technique was least reliable in terms of correlations between scores based on different stories. When Story 1 was compared to Story 2, the obtained correlation failed to reach a level of statistical significance. However, comparison of the TAT stories gave statistically significant correlations in all cases but one, when the scores obtained on any particular card by either high achievers, low achievers, or high and low achievers combined, were compared with their scores on any of the two remaining cards. There was also a high degree of internal consistency with respect to the future references obtained from recent conversations. An odd versus even comparison was made of the items listed by each S (only future references were considered), and the obtained correlations were significant, well above the .01 level in all cases.

TABLE 1 Comparison of high and low achievers with respect to amount of future time perspective

Instrument	High Achievers Medians	Low Achievers Medians	Z	P
Future References	13.5	9.2	2.77	.003
Story-Completion #1	4 hours	1.5 hours	2.03	.021
Story-Completion #2	3 days	6 hours	1.32	.093
All Story-Completions	3.5 days	1.5 days	1.69	.045
TAT Story #1	1 day	1.5 hours	1.82	.034
TAT Story #2	2.5 days	2 hours	2.02	.022
TAT Story #3	12 hours	1 hour	1.82	.034
All TAT Stories	6 months	14 hours	2.21	.013

Note: The Mann-Whitney nonparametric test was used because of the great variability in the time measures obtained which ranged from 5 minutes to 60 years. Because of the fact that the results were all in the predicted direction, and could not have been explained if they were different from that which was hypothesized, the probabilities listed are for a one-tailed test of statistical significance.

Future time perspective and achievement

The recent conversations of high achievers included a significantly greater number of future references ($p < .01$) than those of low achievers. Although high achievers were found to have a more extensive future time perspective on both story-completions, only one of these (Story 1) gave statistically significant differences. When the results of both story-completions were combined, however, the differences were again significant by one-tailed test. The high achievers also demonstrated significantly more extensive future time perspective on all three stories given to the TAT cards.

Optimism and future time perspective

A rank-difference correlation was computed between future time perspective and optimism on the TAT cards. The obtained coefficients of correlation were significant when high and low achievers were compared separately (coefficients of .47 and .40 respectively), or when they were studied as a total group (.50). Highly optimistic people tend to be more future oriented.

DISCUSSION

The results of Eson's technique seem to indicate that high academic achievers are predominantly "anteverts" in so far as their recent thoughts and conversations are concerned, i.e., they tend to look mostly to the future. High achievers were also found to have a more extensive future time perspective than low achievers on most of the projective tests. These findings may mean that low achievers have a short-range or emergency type of future orientation, while high achievers have a long-range or foresightful type. Thus while continued and concentrated effort and attention to school subjects may be tedious and boring to the low achiever, these chores to the high achiever may represent meaningful subgoals on a time continuum in which the final end is eventual vocational success.

Students high in future extension also appeared to be more optimistic. This agrees with Lewin's theories concerning the relationship between self-confidence, hope, and a planning for a better future. The person without hope and confidence concentrates his attention on his immediate surrounds gaining whatever satisfactions he can in the present. In similar fashion, the student who has a history of poor grades might perceive the future as one in which only marginal success could be expected. Thus optimism, or the hope that positive changes can be expected in the future, would be intimately related to the extensiveness of a person's plans.

Pupil Motivation and Its Relationship to the Activity and Social Drives

Doyle M. Bortner[3]

Teachers unfortunately cannot always create motivation in pupils, despite the teachers' intense interest in the learning situation and in the learners. However, teachers can capitalize on and work with the activity and social drives pupils bring with them to school. These drives take different forms and are found in varying degrees in all pupils. Ways in which teachers can effectively utilize these existing drives in children are suggested in the article below.

Motivation is basic to our every effort to influence others. For instance, the advertiser, the editorialist, the lawyer, the foreman, the coach, the lover, all seek to influence their subjects through motivation designed to establish drives and desires. And, so does the teacher who, like these others, has something to "sell" and must convince his subjects that they want to "buy."

With respect to teaching, motivation may be defined as a conscious effort on the part of the teacher either to establish a motive, that is a drive, urge, or desire in his pupils so that learning goals will be attained or to link their already existing motives with the learning goals. It is vital to teaching since it determines whether a pupil learns at all. That is, just because a teacher has taught is no guarantee that learning has taken place, for a pupil could sit in a classroom all year without learning simply because he had no reason—no motive—for learning. Indeed, were motivation not such an important factor in teaching, pupils of the same age, physical condition, and intelligence might reasonably be expected to achieve similar results in the same classroom situation. But, because motivation is so vital, some pupils—those with the stronger desires to learn—achieve better results than do other pupils of the same age, physical condition, and intelligence. Obviously, then, the first step in classroom teaching must be motivation.

---

[3] from Progressive Education, Oct. 1953, 31:5-11. Reprinted by permission of author and publisher.

While motivation was defined as being either the establishing of a motive so that learning goals will be attained or the linking of existing motives with learning goals, the second course is the simpler. Actually, it is difficult, perhaps impossible, to create a motive in a passive pupil so that he will want to learn, but it is quite possible for the alert teacher to relate learning activities to the felt needs and interests which a pupil brings to school with him. Of course, the immediate and specific nature of needs and interests will differ from pupil to pupil, and the teacher will have to take account of such individual differences in any effective approach to motivation. At the same time, the basic nature of the needs and interests will likely be similar from pupil to pupil, and the teacher should capitalize upon this similarity in the motivational process. Such similarity develops from the fact that school pupils, like everyone else, have strong activity and social drives or motives. In these respects they are alike in their potential for motivation, and the teacher who understands this will link the activity and social drives to current learning goals by providing opportunities for their satisfaction along wholesome avenues.

The activity drive is simply an urge for action, for doing. It is common to everyone except the very old or very ill, for we all like to be in a situation where there is action, where we can be "up and doing."

Social drives include desires for security, mastery, recognition, belonging, and new adventure. Others could be added to this list, but these are generally recognized as the most common and most demanding. They are not inherited but are developed from the more primitive drives by the process of learning. And, because they are learned, they are neither universal nor uniform in strength from person to person. Nevertheless, they are common in some degree to almost everyone including children and youth. . . .

THE ACTIVITY DRIVE

With respect, first, to the activity drive, it has already been pointed out that nearly everyone likes to be in a situation where there is "something doing," and that children and young people in particular have a strong urge for action. We know that children normally run, jump, shout, construct, and examine, that adolescents normally play organized games, attend parties, dance, develop hobbies, and devise schemes and projects. Moreover, we know that much of the physical activity of children and adolescents may be the result of excess energy generated by the rapid metabolism that is characteristic of childhood and adolescence, that the supposedly mischievous youngster who indulges in pranks and "monkeyshines" may simply be seeking the release of his excess energy through bodily action. Indeed, we are troubled by the inactive child, the apathetic adolescent.

It follows, then, that the good teacher will utilize the child's or adolescent's desire for action and stimulation. He will see to it that his pupils have rich opportunities to learn through experiences involving activity and creativity. He will—and this is of fundamental importance—give his pupils every possible opportunity to participate *actively* in establishing the purposes which they are going to undertake, to plan the procedures designed to achieve the purposes, to execute the plans, and to evaluate that which they do achieve. That is, he will provide his pupils four opportunities for active learning as compared with the one opportunity afforded them in the traditional classroom, in which the teacher does all the purposing, planning, and evaluating, leaving the pupils only the job of execution.

Within this framework stressing pupil experience and participation, there are a number of techniques which will be utilized, when and where feasible, by the teacher who seeks to capitalize upon the activity drive as a basis for motivation. Specifically, he will encourage a type of pupil discussion which stimulates the free exchange of ideas, prejudices, suggestions, and criticisms. He will ask pupils to help each other when difficulties develop. He will have them work at blackboards, perform manual acts, stage demonstrations, and take part in dramatizations and sociodramas. He will take them on field trips, have them make community surveys, interview citizens of the community, and share in worthy community improvement projects. Finally, he will permit them to move about in the classroom and to converse with their fellows in an orderly and constructive manner. Such a teacher understands that real and lasting learning results from a process whereby the pupils actively reach out into the various areas of their environment, grow in learning from each, and make it a part of themselves. . . .

THE DRIVE FOR SECURITY

Turning now from the activity to the social drives as bases for pupil motivation, it will be recalled that the desires for security, mastery, recognition, belonging, and new adventure were included in this category. They will be considered individually in that order.

The drive for security strongly influences almost everyone. It is the motive behind many adult actions ranging from remaining in uninteresting employment to, in at least scattered instances, marrying. It is, likewise, a strong motive among children and adolescents, for many of the problems of growing up—for example, such adolescent problems as the initial interest in vocations, the opposite sex, and independence of family restrictions—make for feelings of insecurity which need to be transformed into feelings of security if normal social and emotional development are to ensue. Obviously, then, the teacher can help his pupils toward this normal social and emotional development and, at the same time, motivate them if he will employ teaching procedures designed to aid them in developing feelings of security.

Once again, the teacher ought to begin by giving his pupils every possible opportunity to actively participate in the purposing, planning, and evaluating phases of the learning process. By so doing, he helps them satisfy their security needs, for they develop confidence in their abilities to meet new problems and situations on their own, to impose authority upon themselves, to assume responsibility. And because they are satisfying this basic need for security, they have a more enthusiastic outlook upon their learning tasks.

Besides giving his pupils plentiful opportunities for active participation, the alert teacher will capitalize upon the security drive in other ways. For one thing, he will encourage free discussion and exchange of ideas wherever appropriate to the learning situation, for he will understand that security grows, in part, out of the ability to organize, express, and defend ideas even though the ideas may differ from those of the teacher. Second, he will utilize the sociodrama as a device whereby his pupils may gain insight into their own problems as well as the problems of others. Third, he will make use of the survey and interview as devices whereby they may gain confidence in meeting and talking with adults entirely on their own. And, finally, he will employ the problem-solving approach in those cases where learning situations lend themselves to the solution of real problems of immediate concern to his pupils and about which they can do something here and now. On the other hand, he will not overuse the problem-solving method by attempting artificially to introduce vague or adult problems about which nothing can be done, for this would tend to foster feelings of insecurity resulting from failure to cope with the issues. . . .

THE DRIVE FOR MASTERY

An extension of the security drive is apparent in the drive for mastery. This drive is related to the desire for independence—the eagerness to become master of one's own fate—which usually asserts itself with the coming of adolescence. In these respects the teacher has a dual responsibility. In the first place, he should help each pupil achieve whatever feeling of mastery may come through success in his school tasks, for it is the business of the school to make successes, not failures. Second, he should guide the pupil in such a way that the desire for mastery and independence is not overdeveloped. Or, stated somewhat differently, the teacher is responsible for stimulating each pupil toward development to the maximum extent of his particular capacities while, at the same time, guiding him toward both exercising his capacities in a socially constructive manner and understanding his limitations.

In fulfilling his first responsibility, it is obvious that the teacher will necessarily be motivating his pupils. Specifically, he will individualize the instructional process insofar as it may be practicable to do so without limiting the values and stimulations of group work. Only by intelligently providing for individual interests, aptitudes, and needs through such means as differentiated assignments, optional and supplementary learning activities, varied methods of teaching, and flexible learning goals which may be raised, lowered, or changed will the teacher make it possible for his pupils to satisfy their drives for mastery. In this respect, there appears to be no sound reason why any teacher should compel a pupil to persevere in a type of learning activity or plod on toward a learning goal which cannot lead to the achievement of success.

In meeting his second responsibility—that of making his pupils aware of their personal limitations and social responsibilities—the teacher will again remember that guidance begins in the classroom where weaknesses as well as talents often come to light. He will not encourage each pupil to become President of the United States or even a "white collar" worker. That is, he will not encourage a false sense of mastery but will seek, instead, to correlate ambitions with reality. In addition, he will encourage his pupils to exercise their capacities in a socially useful manner. Specifically, he will make liberal use of group projects, for he will appreciate participation in cooperative undertakings as a functional means of teaching the responsibility of the individual to society, the necessity for adjusting personal interests and talents to the larger interests of the group. At the same time, he will be careful to distribute opportunities for group leadership among his pupils, for through leadership his pupils can at once satisfy the desire for mastery and learn responsibility to others. . . .

THE DRIVE FOR RECOGNITION

Turning next to what is probably the strongest of all social drives—the drive for recognition or approval—it is quite obvious that everyone wants to be appreciated in one way or another. This is true from the time of infancy when the desire is first developed by virtue of the recognition and non-recognition which the infant receives from members of the family. By the time the child enters school, he is strongly conditioned to the need for recognition and approval. The chances are good that he will be able to satisfy this need through scholastic achievement, leadership, and participation in extra-class activities, or through some special but socially approved talent. However, there are some pupils who are less fortunate in that they seem to be unable to gain recognition by attaining school-approved goals or exhibiting socially approved accomplishments. Yet, it is unbearable for these pupils to sit quietly by and accept their incapacities. If they are to protect their egos through satisfaction of their need for recognition, they are forced to devise some means beyond the range of the approved outlets conventionally available within school and classroom. Unfortunately, the means devised may be compensations in the forms of cheating, lying, unruliness, bullying, or even petty thievery which may enable them to achieve goals unattainable by direct and more honest methods. Unruliness and bullying, while not calculated to gain teacher approval, are likely to assure teacher recognition, plus recognition and, perhaps, even approval on the parts of fellow pupils. Obviously, then, the drive for recognition constitutes a powerful motivating force behind pupil actions. And, just as obviously, the teacher has responsibilities for both encouraging his pupils to satisfy this drive in normal ways and for taking every advantage of its existence as a heaven-sent basis for classroom motivation.

While this paper is primarily concerned with ways and means by which the teacher can take advantage of the recognition drive as a basis for motivation, it is clear that the teacher who successfully does so will, at the same time, be helping his pupils satisfy the drive in normal fashion. Of the ways and means available to the teacher, some are quite similar to those which have already been indicated as useful in satisfying the desire for mastery. For instance, he can individualize the instructional process by gearing learning activities and goals to the particular capacities of his pupils; he can distribute opportunities for leadership among them; and he can show them that there is more than one medium through which recognition can be achieved, that scholastic achievement, while commendable, is not the only kind of accomplishment prized by teachers. Insofar, however, as scholastic achievement must be accented by the assignment of grades, the teacher will grade pupils in terms of their individual abilities and progress and not in terms of their comparisons with others whose assets and limitations may be quite different. The only exceptions to this general rule should be in those courses which the pupils *elect* for purposes of preparing for either a vocation or further study, where certain degrees of proficiency are required.

In addition to these rather broad procedures, there are certain things that the teacher will do if he appreciates his pupils' recognition drives as bases for motivation. For one thing, he will employ group projects where feasible. In this connection, he will know that pupils tend to work diligently for the achievement of group objectives, since they want and very much esteem the approval of their peers. Second, he will be reasonably liberal with praise for evidences of individual progress. In this respect, he will understand that praise, if not given indiscriminately, will usually lead to increased effort and enthusiasm on the part of the recognized pupils. Moreover, he will apply this general principle on a broader scale by endeavoring to build up the feeling that his classes are "good" classes, that they are making progress. And, finally, he will realize that such seemingly little things as expressions of interest in what pupils are wearing, their personal experiences, their jobs, and their hobbies are forms of recognition which are often reflected in greater pupil enthusiasm for school and school work. . . .

THE DRIVE FOR BELONGING

With respect next to the drive for belonging, sometimes referred to as the gregarious drive, it is nothing more than the desire to be with others. It develops because from early infancy one's most pleasant emotional experiences occur in the presence of others. Its importance is evidenced by history which reveals that for many centuries the privilege of belonging, of being with others, has been denied, through imprisonment and excommunication, as a means of punishment. Certainly, by the time the child enters school, he is strongly conditioned to being with other people, and has learned the advantages of playmates and parents as compared with the disadvantages of loneliness or ostracism.

Since school pupils, like everyone else, have a desire to be with others, it follows that the teacher can capitalize upon it as another basis for motivation. In this connection, the teacher who employs the techniques already suggested as appealing to the recognition drive is also likely to be satisfying the drive for belonging, since recognition frequently fosters a feeling of belonging. More specifically, the desire to belong is apt to be best satisfied by means of group activities including projects, committee work, or games which involve teamwork, for here the pupil is able to associate with his fellows in a common endeavor. In fact, some teachers have been pleased to find their pupils considerably more enthusiastic when classes are organized in the form of clubs—as, for instance, when an English class becomes a Literature Club—with officers and members cooperating in the execution of common purposes.

Beyond the emphasis on group activities, however, the teacher who understands the relationship of motivation to the desire for belonging will try to develop in his pupils a feeling of being wanted. Accordingly, he will be courteous and sympathetic in his actions, will create a classroom atmosphere of naturalness and easiness, and will show trust in and a readiness to delegate important responsibilities to his pupils. . . .

THE DRIVE FOR NEW ADVENTURE

Finally, the desire for new adventure—or new experiences—is quite common and especially strong among children and adolescents though it, more than any of the other social drives, differs in strength from person to person. It is sometimes referred to as "curiosity" but it extends far beyond this. And, despite the fact that it differs markedly in strength from person to person, it would be the rare child who was not curious, the rare adolescent who had no enthusiasm for a new adventure.

Here, then, is still another foundation for pupil motivation awaiting the teacher's use. In taking advantage of it, the teacher will look for favorable opportunities to utilize learning procedures which are rich in possibilities for activity and creativity, or which encourage projection into the unknown, the area of uncertainties. He will also make it possible for his pupils to enjoy new experiences both directly and vicariously by his liberal use of the various types of community resources, particularly the field trip and the resource visitor, and of audio-visual aids, particularly the motion picture and the frequently-changed bulletin-board display. And, in doing all this he will look for ways of satisfying individual curiosities and desires for particular types of new experiences. . . .

. . . Not only do these drives require satisfaction for the sake of healthy and integrated development, but they provide the alert teacher with valuable bases for motivation. Their use for motivational purposes depends upon methodology which employs a sound combination of individualized and group approaches to learning, which furnishes liberal opportunities for self-directed, responsible, and creative experiences blended with able guidance. . . .

Students, Groups, and Teaching Methods

Wilbert J. McKeachie[4]

One of the fundamental questions in the area of motivation is the relationship between teaching methods and student performance. The author of this article describes a number of experiments on student motivation at the college level. Although these experiments were conducted with college classes, they may have relevance for the elementary and secondary levels. Is it possible to have too much "motivation" in the classroom? What types of classroom organization produce the best results? These are some of the questions considered in the various experiments.

One of the most exciting, and frustrating, areas of applied research is research on college teaching—and particularly on the teaching of psychology.

The general psychology course at the University of Michigan is not required, but it is elected by over 90% of the undergraduates. At present the course enrolls approximately 2,700 students a year who are taught in some 55 sections varying in size from 10 to 30. Some of these sections are combined into groups of 50 to 250 for two of the four meetings a week. About 30 graduate students and faculty members are engaged in teaching in the course, and five graduate assistants are employed. This staff meets twice weekly in a seminar and usually develops a strong interest in teaching problems and in experimental treatment of these problems.

---

[4] from **The American Psychologist**, Vol. 13, No. 10, Oct. 1958, pp. 580-584. Reprinted by permission of author and publisher.

An excellent research situation is thus available. With a relatively large number of sections and teachers involved, teacher and group differences can be randomized more effectively than in most educational research, and the general interest in research on the part of the teaching staff permits a high degree of control over experimental manipulations. Our research projects have thus involved a number of people. . . .

RESEARCH ON TEACHING METHODS

In 1946 the best summary of research on the teaching of psychology was that of Wolfle. He summarized it by quoting Longstaff's statement of 1932:

> . . . the experimental evidence submitted to the present time tends to support the general conclusion that there is little difference in student achievement in large and small classes and, also, that it makes little difference as to what method of presentation of the materials of the course is used.

Our group of teaching fellows did not accept this conclusion. Strongly influenced by the research of Lewin and his colleagues, we argued a good deal about the merits of discussion teaching. Pressed by our leaders, Harold Guetzkow and Lowell Kelly, we agreed that the only way to settle our arguments was to attempt to devise measures of outcomes by which we could compare the discussion method with other methods of teaching.

Following the model of Lewin, Lippitt, and White's study of authoritarian, democratic, and laissez faire group climates, we set up three styles of teaching: recitation, discussion, and group tutorial. As we have previously reported, the results of that experiment did not fit our preconceptions. As compared to discussion and tutorial methods, the more autocratic recitation method proved not only to produce superior performance on the final examination, but also to produce greater interest in psychology, as measured by the election of advanced courses in psychology. Furthermore, students liked it better than the other methods.

During the ensuing years, we were attempting further manipulations of teaching methods, and we continued to be concerned with social psychological variables. We were particularly interested in the *power* of the group to determine its own fate and the degree of interaction between group members. Thus, in our next experiment we compared classes which differed in two major respects. One of these was in the degree of power given to the class in making group decisions about assignments, class activities, etc. The other difference was in the degree to which student-to-student interaction was encouraged. In our experimental classes the group made many group decisions, and the students were encouraged to direct their comments to each other rather than to the teacher. Decisions made by the group in the experimental classes were imposed by the instructor on the control classes. Student participation in class discussion was also encouraged in the control groups, but all interaction was mediated through the instructor. He asked questions, answered student questions, and was the focus of class activities.

As compared with our earlier experiment this experiment was more radical both in the freedom given the experimental groups and in the fact that it involved all of the students' hours in class. However, we tried to do a better job of taking into account students' need for achievement by giving them frequent checks on their progress through summaries and evaluations given in the concluding minutes of class periods.

The results of this experiment were more encouraging for advocates of group-centered methods. This time there was *no* significant difference between the two types of classes on their final examination scores, but one unique bit of qualitative evidence supported our feelings that teaching makes a difference in learning. We recorded class discussions following the showing of the film "Feeling of Rejection." The instructor took no part in these discussions. The transcripts of the discussion were evaluated by two clinical psychologists who knew nothing about the experiment. Both psychologists agreed that the group-centered class showed much more insight into the dynamics of the case and was less frightened and defensive than the instructor-centered class. The instructor-centered class tended to label the behavior of the heroine without apparent understanding of her difficulties.

Our conclusion that group-centered teaching tended to promote greater insight was supported by the finding of Gibb and Gibb that their "participative action" method produced greater self-insight and role-flexibility than conventional teaching methods did. Like us, the instructor in the Gibb experiment gave a good deal of initial direction but gradually relinquished control.

WHAT TYPE OF PERSONALITY SUCCEEDS IN GROUP-CENTERED CLASSES?

Despite these glimmerings of encouragement, it was evident that the conglomeration of variables included under the title group-centered teaching has no great, uniform effect upon student learning. We saw two possible paths of further research. One of these was to attempt to determine more precisely the important group variables involved in group-centered teaching. The second was to investigate what student characteristics made a difference in responses to group-centered teaching. In his doctoral dissertation Joseph Patton, of our group, made a two-pronged attack upon these problems.

Patton felt that an important variable in group-centered classes was the students' acceptance of responsibility for learning. In his experiment he compared traditional classes to two classes in which there were no examinations, no lectures, and no assigned readings. Students in the experimental classes decided what reading they would do, what class procedures would be used, what they would hand in, and how they would be graded, so that they had even more power than had our previous experimental groups. At the end of the course, these classes, as compared to the control group, (*a*) felt that the course was more valuable; (*b*) showed greater interest in psychology; and (*c*) tended to give more dynamic, motivational analyses of a problem of behavior.

Patton also obtained individual measures of acceptance of responsibility within the experimental classes and found that the degree to which the student accepted responsibility was positively correlated with gain in psychological knowledge, gain in ability to apply psychology, rating of the value of the course and interest in psychology. Thus the effect of giving students additional responsibility seemed to depend upon the student's readiness to accept responsibility.

But what sort of student will accept responsibility in such a course? Patton's research also investigated this question. He found that the students who liked the experimental class and assumed responsibility were likely to be independent of traditional authority figures and high in need for achievement.

ANXIETY AND TEST PERFORMANCE

In thinking about student reactions to teaching methods it was inevitable that we should be concerned about the relationship between students and faculty. Perhaps because we were young and inexperienced, we all wanted very much to be liked by our students, and we were well liked—most of the time. I say "most of the time" because all of us dreaded giving and returning tests. No matter how carefully our tests were constructed, they elicited bitter, aggressive reactions from our students. Perhaps the very fact that our students felt accepted by us enabled them to attack our tests more freely than they would have dared to in more authoritarian classes; and, because our tests tried to go beyond straight memory for facts, we probably aroused more anxiety than other examiners did.

One of our teaching fellows, Louis Berman, suggested that some of the aggression might be dissipated by permitting students to write comments on tests. So we tried this experimentally: giving half of the students answer sheets with spaces for comments; and half, standard answer sheets. Our measures of students' feeling about the tests failed to show any difference between the two groups; but, much to our surprise, the students who had the opportunity to write comments made higher scores on the test.

We have described elsewhere the series of experiments which followed this finding. The important thing was that our results held up in a series of experiments, and these experiments gave us some new ideas about student motivation in a classroom situation.

Up until this point we had thought that our big problem was to increase student motivation. Now it appeared that some of our students were already too highly motivated—at least for performance on tests. We interpreted our findings as indicating that student anxiety during classroom examinations builds up to such a point that it interferes with memory and problem solving. Reducing the stress of the examination by permitting students to write comments thus resulted in improved performance.

Just as our research on teaching methods had directed our attention to the interaction between situational variables and individual differences in motivation, here, too, we became interested in the individual differences in students' reactions to more and less stressful test situations.

In his doctoral dissertation Neil Carrier investigated the manner in which individual differences in four personality variables affected performance in more and less stressful testing situations. In his "low stress" condition students had answer sheets with spaces for comments, and the test was administered in a friendly, relaxed fashion. In the "high stress" condition, the test was taken in a strange room, was administered by an austere stranger who announced that he would answer no questions during the test, and students were told that a point would be deducted for every wrong answer but that they must answer every question. In the students' words this was a "real, rugged situation."

The techniques used to increase stress were chosen with an eye on the personality dimensions Carrier intended to study. One of his variables was *need for achievement,* and the announcement of the penalty for wrong answers was specifically aimed at the person whose need for achievement is characterized by a strong fear of failure. Similarly he presumed that the person with a strong *need for affiliation* would be affected by the austere, unfriendly attitude of the proctor. Donald Smith's *permeability* dimension was chosen because it is thought to involve the extent to which an individual is influenced by changes in the external situation, and the highly permeable individual is thought to be dependent upon others in decision making situations. Similarly Smith's *stability* dimension is presumed to indicate the individual's general level of anxiety, and we would expect that highly anxious individuals would be likely to "crack up" under additional stress.

As usual Carrier's results gave us some surprises. The first was that one of the most important variables determining reaction to stress in his experiment was *sex.* Women were hit much harder than men by his stress situation. Once we had Carrier's result, we could think of all sorts of reasons why it should be so—the findings of McClelland, Atkinson, and their associates on sex differences in achievement imagery, Guetzkow's findings of sex differences in rigidity, and Margaret Mead's descriptions of women's achievement conflicts—but we had just never thought seriously of a sex difference before.

But the tests of the original hypothesis were also interesting. In general, *need for achievement* and *need for affiliation* failed to predict reactions to our stress situation. However, the *permeable* students were detrimentally affected by stress.

Carrier's results encouraged us to investigate other measures of fear of failure and anxiety and their relationship to performance in more and less stressful testing situations. In our next experiment half of a group of 350 students taking a test received conventional IBM answer sheets; half received answer sheets with space for comments. In addition, half of the students had received one of the tranquilizing drugs, meprobamate ("Miltown"), from a physician associated with the Institute of Mental Health Research, while the other half had received a placebo. All of the students had taken a number of tests of anxiety and of need for achievement a week prior to the examination. Thus we were able to investigate a number of relationships. One of the simplest of these was the effect of meprobamate on performance. If most students are too anxious, such a drug should improve test scores. Our results did not confirm this hypothesis. Students who actually had the Miltown reported experiencing less anxiety during the examination than did the placebo group, but they did not make better scores.

The really interesting results of the experiment were the interactions. The sex-drug interaction was significant both in its effect on performance and on anxiety, with women benefiting from the drug more than men. So once again sex turns out to be an important variable.

DISCUSSION

Motivation

At present I begin my consideration of student behavior in terms of motives. Achievement motivation would seem to be a particularly important motive for determining classroom behavior, but our results indicate that it alone is not a good predictor of achievement in our classes. It seems to me now that this is because a lot of motives are directed toward grades. Not that all students are working for *A*'s—far from it. But whether a student is trying to maintain a straight *A* average or simply to keep eligible for the football team, grades are such universal student incentives that general motivation measures are not powerful predictors of achievement in a single, typical, college class.

Complicating our problem is the curvilinear effect of motivation on performance. As we saw in our studies of testing situations, it appears that we can push motivation too high. Up to a point, increasing motivation improves performance; but, if we try to scare some of our poorly motivated students into doing better, we may be pushing some of our more anxious students over the brink into disorganization.

Instrumental behavior

Since motivational measures are not sufficient to give us a complete understanding of student behavior, we must turn to a second intervening variable, which I term instrumental behavior or habit. Our students have been in school for 12 to 15 years. It is not surprising that they have developed rather strong expectations about the instrumental behaviors necessary for them to attain their desired grades. They expect the teacher's behavior and his requirements of them to fit into a particular pattern; and, when this pattern is altered, they are likely to be disturbed unless the instructor clearly indicates the instrumental behaviors now required for them to satisfy their motives.

Situational factors

In varying our teaching methods we are varying cues to student motives, but more important we are affecting the student's perception of the instrumental behaviors necessary if he is to satisfy his motives. In our initial Lewin-Lippitt-White-type experiment, students did well in the recitation class and liked it because the instrumental behaviors required were ones which almost all students have learned in their earlier schooling.

The importance of the power of the group in our later experiments was that it gave the students some control over the situation. Because the instrumental behaviors were chosen by the group, they were less ambiguous than in a nondirective situation and we would also expect the group to select behaviors which were within the repertoire of most members of the group.

Student-to-student interaction is important, we feel, because of its relation to interpersonal liking. By increasing liking for other group members, we counteract the threat caused by the reduced ability of students to depend upon the teacher. We suspect that this is particularly important for the more dependent students. . . .

It is not surprising that we find that sex is an important variable, since biological and cultural factors interact in differentiating men from women in consistent ways. Like other researchers, we find that women are more highly motivated, achieve more nearly up to their abilities, and are more greatly affected by changes in the classroom situation than are men.

INTERPRETING THE SELECTIONS

Tyler article

1. What was the purpose of this study? What were the results?

2. What are the possible applications of this study to a classroom learning situation?

3. What is the effect of anxiety upon learning?

4. Why do you think that "the more punishing the alternatives in a choice situation, the longer the decision time for making a choice"?

Teahan article

1. Can you suggest any changes in procedure for this experiment?

2. How do the findings in this study relate to those in the Tyler article?

3. Does the student with broader time perspective achieve more because of this perspective or is his perspective more extensive because of his higher achievement? Explain.

Bortner article

1. Cite examples, from your own experience or observation, of teachers' making good use of one or another of the activity and social drives.

2. Cite examples, from your experience or observation, of teachers' ignoring or working against these drives.

3. Tell how you would answer a man who said: "I don't believe in all this pampering of children's restlessness. They need the discipline of sitting still and paying attention. After all, the primary function of teachers is still to teach children what they will need to know as thinking citizens in a democracy."

McKeachie article

1. What is the relationship between anxiety and motivation? How do personality differences affect research like this?

2. Do group-centered classrooms have advantages over the instructor-centered classroom? What are they?

13 LEARNING IN GROUPS

Opinions and Social Pressure

Solomon E. Asch[1]

Since many of our most important learning experiences take place within groups, group influences play a significant role in individual learning and value formation. The effect of the opinions of others upon our own convictions and judgments is an interesting area of research. The article below reports experiments in group pressure and desire for social conformity. The author finds disturbing results in the extent to which people do not believe their own convictions in the face of group consensus against their views.

That social influences shape every person's practices, judgments and beliefs is a truism to which anyone will readily assent. A child masters his "native" dialect down to the finest nuances; a member of a tribe of cannibals accepts cannibalism as altogether fitting and proper. All the social sciences take their departure from the observation of the profound effects that groups exert on their members. For psychologists, group pressure upon the minds of individuals raises a host of questions they would like to investigate in detail.

How, and to what extent, do social forces constrain people's opinions and attitudes? This question is especially pertinent in our day. The same epoch that has witnessed the unprecedented technical extension of communication has also brought into existence the deliberate manipulation of opinion and the "engineering of consent." There are many good reasons why, as citizens and as scientists, we should be concerned with studying the ways in which human beings form their opinions and the role that social conditions play.

Studies of these questions began with the interest in hypnosis aroused by the French physician Jean Martin Charcot (a teacher of Sigmund Freud) toward the end of the 19th century. Charcot believed that only hysterical patients could be fully hypnotized, but this view was soon challenged by two other physicians, Hyppolyte Bernheim and A. A. Liébault, who demonstrated that they could put most people under the hypnotic spell. Bernheim proposed that hypnosis was but an extreme form of a normal psychological process which became known as "suggestibility." It was shown that monotonous reiteration of instructions could in-

---

[1] from **Scientific American,** Vol. 193, No. 5, Nov. 1955, pp. 31-35. Reprinted by permission of author and publisher. Copyright © 1955 by Scientific American, Inc. All rights reserved.

duce in normal persons in the waking state involuntary bodily changes such as swaying or rigidity of the arms, and sensations such as warmth and odor.

It was not long before social thinkers seized upon these discoveries as a basis for explaining numerous social phenomena, from the spread of opinion to the formation of crowds and the following of leaders. The sociologist Gabriel Tarde summed it all up in the aphorism: "Social man is a somnambulist."

When the new discipline of social psychology was born at the beginning of this century, its first experiments were essentially adaptations of the suggestion demonstration. The technique generally followed a simple plan. The subjects, usually college students, were asked to give their opinions or preferences concerning various matters; some time later they were again asked to state their choices, but now they were also informed of the opinions held by authorities or large groups of their peers on the same matters. (Often the alleged consensus was fictitious.) Most of these studies had substantially the same result: confronted with opinions contrary to their own, many subjects apparently shifted their judgments in the direction of the views of the majorities or the experts. The late psychologist Edward L. Thorndike reported that he had succeeded in modifying the esthetic preferences of adults by this procedure. Other psychologists reported that people's evaluations of the merit of a literary passage could be raised or lowered by ascribing the passage to different authors. Apparently the sheer weight of numbers or authority sufficed to change opinions, even when no arguments for the opinions themselves were provided.

Now the very ease of success in these experiments arouses suspicion. Did the subjects actually change their opinions, or were the experimental victories scored only on paper? On grounds of common sense, one must question whether opinions are generally as watery as these studies indicate. There is some reason to wonder whether it was not the investigators who, in their enthusiasm for a theory, were suggestible, and whether the ostensibly gullible subjects were not providing answers which they thought good subjects were expected to give.

The investigations were guided by certain underlying assumptions, which today are common currency and account for much that is thought and said about the operations of propaganda and public opinion. The assumptions are that people submit uncritically and painlessly to external manipulation by suggestion or prestige, and that any given idea or value can be "sold" or "unsold" without reference to its merits. We should be skeptical, however, of the supposition that the power of social pressure necessarily implies uncritical submission to it: independence and the capacity to rise above group passion are also open to human beings. Further, one may question on psychological grounds whether it is possible as a rule to change a person's judgment of a situation or an object without first changing his knowledge or assumptions about it.

In what follows I shall describe some experiments in an investigation of the effects of group pressure which was carried out recently with the help of a number of my associates. The tests not only demonstrate the operations of group pressure upon individuals but also illustrate a new kind of attack on the problem and some of the more subtle questions that it raises.

A group of seven to nine young men, all college students, are assembled in a classroom for a "psychological experiment" in visual judgment. The experimenter informs them that they will be comparing the lengths of lines. He shows two large white cards. On one is a single vertical black line—the standard whose length is to be matched. On the other card are three vertical lines of various lengths. The subjects are to choose the one that is of the same length as the line on the other card. One of the three actually is of the same length; the other two are substantially different, the difference ranging from three quarters of an inch to an inch and three quarters.

The experiment opens uneventfully. The subjects announce their answers in the order in which they have been seated in the room, and on the first round every person chooses the same matching line. Then a second set of cards is exposed; again the group is unanimous. The members appear ready to endure politely another boring experiment. On the third trial there is an unexpected disturbance. One person near the end of the group disagrees with all the others in his selection of the matching line. He looks surprised, indeed incredulous, about the disagreement. On the following trial he disagrees again, while the others remain unanimous in their choice. The dissenter becomes more and more worried and hesitant as the disagreement continues in succeeding trials; he may pause before announcing his answer and speak in a low voice, or he may smile in an embarrassed way.

What the dissenter does not know is that all the other members of the group were instructed by the experimenter beforehand to give incorrect answers in unanimity at certain points. The single individual who is not a party to this prearrangement is the focal subject of our experiment. He is placed in a position in which, while he is actually giving the correct answers, he finds himself unexpectedly in a minority of one, opposed by a unanimous and arbitrary majority with respect to a clear and simple fact. Upon him we have brought to bear two opposed forces: the evidence of his senses and the unanimous opinion of a group of his peers. Also, he must declare his judgments in public, before a majority which has also stated its position publicly.

The instructed majority occasionally reports correctly in order to reduce the possibility that the naive subject will suspect collusion against him. (In only a few cases did the subject actually show suspicion; when this happened, the experiment was stopped and the results were not counted.) There are 18 trials in each series, and on 12 of these the majority responds erroneously.

How do people respond to group pressure in this situation? I shall report first the statistical results of a series in which a total of 123 subjects from three institutions of higher learning (not including my own, Swarthmore College) were placed in the minority situation described above.

Two alternatives were open to the subject: he could act independently, repudiating the majority, or he could go along with the majority, repudiating the evidence of his senses. Of the 123 put to the test, a considerable percentage yielded to the majority. Whereas in ordinary circumstances individuals matching the lines will make mistakes less than 1 per cent of the time, under group pressure the minority subjects swung to acceptance of the misleading majority's wrong judgments in 36.8 per cent of the selections.

Of course individuals differed in response. At one extreme, about one quarter of the subjects were completely independent and never agreed with the erroneous judgments of the majority. At the other extreme, some individuals went with the majority nearly all the time. The performances of individuals in this experiment tend to be highly consistent. Those who strike out on the path of independence do not, as a rule, succumb to the majority even over an extended series of trials, while those who choose the path of compliance are unable to free themselves as the ordeal is prolonged.

The reasons for the startling individual differences have not yet been investigated in detail. At this point we can only report some tentative generalizations from talks with the subjects, each of whom was interviewed at the end of the experiment. Among the independent individuals were many who held fast because of staunch confidence in their own judgment. The most significant fact about them was not absence of responsiveness to the majority but a capacity to recover from doubt and to re-establish their equilibrium. Others who acted independently came to believe that the majority was correct in its answers, but they continued their dissent on the simple ground that it was their obligation to call the play as they saw it.

Among the extremely yielding persons we found a group who quickly reached the conclusion: "I am wrong, they are right." Others yielded in order "not to spoil your results." Many of the individuals who went along suspected that the majority were "sheep" following the first responder, or that the majority were victims of an optical illusion; nevertheless, these suspicions failed to free them at the moment of decision. More disquieting were the reactions of subjects who construed their difference from the majority as a sign of some general deficiency in themselves, which at all costs they must hide. On this basis they desperately tried to merge with the majority, not realizing the longer-range consequences to themselves. All the yielding subjects underestimated the frequency with which they conformed.

Which aspect of the influence of a majority is more important—the size of the majority or its unanimity? The experiment was modified to examine this question. In one series the size of the opposition was varied from one to 15 persons. The results showed a clear trend. When a subject was confronted with only a single individual who contradicted his answers, he was swayed little: he continued to answer independently and correctly in nearly all trials. When the opposition was increased to two, the pressure became substantial: minority subjects now accepted the wrong answer 13.6 per cent of the time. Under the pressure of a majority of three, the subjects' errors jumped to 31.8 per cent. But further increases in the size of the majority apparently did not increase the weight of the pressure substantially. Clearly the size of the opposition is important only up to a point.

Disturbance of the majority's unanimity had a striking effect. In this experiment the subject was given the support of a truthful partner—either another individual who did not know of the prearranged agreement among the rest of the group, or a person who was instructed to give correct answers throughout.

The presence of a supporting partner depleted the majority of much of its power. Its pressure on the dissenting individual was reduced to one fourth: that is, subjects answered incorrectly only one fourth as often as under the pressure of a unanimous majority. The weakest persons did not yield as readily. Most interesting were the reactions to the partner. Generally the feeling toward him was one of warmth and closeness; he was credited with inspiring confidence. However, the subjects repudiated the suggestion that the partner decided them to be independent.

Was the partner's effect a consequence of his dissent, or was it related to his accuracy? We now introduced into the experimental group a person who was instructed to dissent from the majority but also to disagree with the subject. In some experiments the majority was always to choose the worst of the comparison lines and the instructed dissenter to pick the line that was closer to the length of the standard one; in others the majority was consistently intermediate and the dissenter most in error. In this manner we were able to study the relative influence of "compromising" and "extremist" dissenters.

Again the results are clear. When a moderate dissenter is present, the effect of the majority on the subject decreases by approximately one third, and extremes of yielding disappear. Moreover, most of the errors the subjects do make are moderate, rather than flagrant. In short, the dissenter largely controls the choice of errors. To this extent the subjects broke away from the majority even while bending to it.

On the other hand, when the dissenter always chose the line that was more flagrantly different from the standard, the results were of quite a different kind. The extremist dissenter produced a remarkable freeing of the subjects; their errors dropped to only 9 per cent. Furthermore, all the errors were of the moderate variety. We were able to conclude that dissent *per se* increased independence and moderated the errors that occurred, and that the direction of dissent exerted consistent effects.

In all the foregoing experiments each subject was observed only in a single setting. We now turned to studying the effects upon a given individual of a change in the situation to which he was exposed. The first experiment examined the consequences of losing or gaining a partner. The instructed partner began by answering correctly on the first six trials. With his support the subject usually resisted pressure from the majority: 18 of 27 subjects were completely independent. But after six trials the partner joined the majority. As soon as he did so, there was an abrupt rise in the subjects' errors. Their submission to the majority was just about as frequent as when the minority subject was opposed by a unanimous majority throughout.

It was surprising to find that the experience of having had a partner and of having braved the majority opposition with him had failed to strengthen the individual's independence. Questioning at the conclusion of the experiment suggested that we had overlooked an important circumstance; namely, the strong specific effect of "desertion" by the partner to the other side. We therefore changed the conditions so that the partner would simply leave the group at the proper point. (To allay suspicion it was announced in advance that he had an appointment with the dean.) In this form of the experiment, the partner's effect outlasted his presence. The errors increased after his departure, but less markedly than after a partner switched to the majority.

In a variant of this procedure the trials began with the majority unanimously giving correct answers. Then they gradually broke away until on the sixth trial the naive subject was alone and the group unanimously against him. As long as the subject had anyone on his side, he was almost invariably independent, but as soon as he found himself alone, the tendency to conform to the majority rose abruptly.

Life in society requires consensus as an indispensable condition. But consensus, to be productive, requires that each individual contribute independently out of his experience and insight. When consensus comes under the dominance of conformity, the social process is polluted and the individual at the same time surrenders the powers on which his functioning as a feeling and thinking being depends. That we have found the tendency to conformity in our society so strong that reasonably intelligent and well-meaning young people are willing to call white black is a matter of concern. It raises questions about our ways of education and about the values that guide our conduct.

Yet anyone inclined to draw too pessimistic conclusions from this report would do well to remind himself that the capacities for independence are not to be underestimated. He may also draw some consolation from a further observation: those who participated in this challenging experiment agreed nearly without exception that independence was preferable to conformity.

Attitudes Toward In- and Out-Groups

Muzafer Sherif and Carolyn W. Sherif[2]

The following article presents a study of the forces that mold individual behavior within a group and shape attitudes toward other persons and groups. These findings indicate that even relatively simple judgments, perceptions, and reactions are affected by the group situation and one's participation as a group member. As you read, try to recall other settings in which you have seen these principles operate.

. . . This study was carried out as the first part of a series of related research all of which will be integrated with the aim of giving a more rounded picture of the vast topic of relations within and between groups. In the research to be reported here, we have started with the negative aspect—the experimental production of friction and negative stereotypes between groups. Our main interest is to proceed to a realistic understanding of conditions and means of bringing about harmony and integration between groups. . . .

---

[2] from Groups in Harmony and Tension; An Integration of Studies on Intergroup Relations (New York: Harper & Brothers, 1953), pp. 236-288. Reprinted by permission of authors and publisher.

On the basis of lessons learned from the study of small in-groups and functional relationships between in-groups, the following hypotheses were formulated:

> 1. When individuals having no established relationships are brought together in a group situation to interact in group activities with common goals, they produce a group structure with hierarchical positions and roles within it. This group structure implies positive in-group identifications and common attitudes, and tends in time to generate by-products or *norms* peculiar to the group, such as nicknames, catchwords, ways of doing things, etc.
>
> 2. If two in-groups thus formed are brought into functional relationship under conditions of competition and group frustration, attitudes and appropriate hostile actions in relation to the out-group and its members will arise. These will be standardized and shared in varying degree by group members. . . .

The possibility that groups would form on the basis of previous acquaintance or hostility was minimized by selecting subjects from different neighborhoods and towns in the New Haven area. [pp. 236-237]

In attempting to satisfy the requirement that subjects be of homogeneous background, twenty-four boys were selected. All were close to twelve years of age, all came from settled American families of the lower-middle-class income group in the New Haven area. . . . The group had a mean I.Q. of 104.8. All of the boys might be called more or less "normal"; none had been labeled "behavior problems." . . .

GENERAL PLAN OF THE EXPERIMENT

This study of in-group formation and inter-group relations was conducted at an isolated camp site near the Massachusetts state line and lasted for eighteen days. The nearest town was eight miles away, and there was no bus service in the neighborhood; consequently there were no immediate distractions from neighborhood soda fountains, movies, townspeople, etc. Neither boys nor staff members were permitted to have any visitors during the course of the study. As far as the boys were concerned, they were attending a summer camp sponsored by the Yale Psychology Department. [pp. 238-239]

The bulk of the observations was obtained by two participant observers who were graduate students. They appeared in the role of senior counselors to the two experimental groups. Each participant observer had the assistance of a junior counselor who was under his direct control and was instructed to follow his lead. Since the junior counselors were experienced in camping activities, the participant observers were comparatively free to observe their groups and to stay with them throughout the camp period. . . .

As far as the boys were concerned, therefore, the situation was as natural and attractive as the usual summer-camp situation. . . . [pp. 240-241]

A fundamental point to be kept in mind in understanding the results that follow is that the participant observers, who appeared in the role of counselors, were in the camp primarily to observe. Both they and other staff members were repeatedly urged not to be leaders in the usual sense of adult leadership at boys' camps. They were instructed, rather, to make provisions for the activities, to look after the safety and health of the boys, and to set things right if behavior went too far out of bounds. Neither the counselors nor the boy leaders who emerged during the course of the experiment were asked to exercise any particular kind of leadership technique, democratic or authoritarian. Nor was authority to be delegated or suggested to the boys by the staff members. . . . [p. 242]

On the whole, the demands of the situations, not adult leadership, led the groups to discuss their affairs collectively. For example, the participant observer at one time gave his group a whole watermelon, leaving the division strictly to them. On another occasion, four large chocolate bars were given to each group of 12 boys as a reward in their collective Treasure Hunts. The ways in which the watermelon and chocolate were distributed were up to the boys. Of course, these boys were used to camp situations in which such decisions were made by adults. . . . [p. 243]

STAGE I

The first three days of camp were planned as the stage of "natural" or "spontaneous" groupings based on personal likes, dislikes, common interests of the boys. The main purpose of Stage I was to rule out, or at least to minimize, the possibility of interpreting results of the in-groups formed later and relations between these in-groups on the basis of personal inclinations of individual members for one another.

The boys were brought to camp in a bus, and all twenty-four were housed in one large bunkhouse during this period. They were free to select their own bunks, seats at meals, buddies for play activities, athletic teams, etc. All activities were camp-wide, i.e., potentially including all boys. They were selected to get each boy in contact with all the others and to give each an opportunity to contribute in his own way. For example, swimming, softball, mass soccer, a two-hour hike as well as a talent show, stunt night and small-group activities, such as ping-pong, horseshoes, fishing, tossback, and card playing were scheduled. . . . [p. 244]

At the end of Stage I, boys were taken aside informally at a "free activity" period for informal interviews held on the pretext of getting suggestions for favored activities and improving the camp. During these interviews, friendship choices were obtained casually and were written down by another staff member hidden from the boys' view behind a curtain. . . .

The friendship choices obtained informally were used to make popularity ratings (sociograms). As other studies have found, the sociograms showed, as had observations, that the boys were beginning to cluster in budding friendship groups of two, three, or four boys. . . . The division of the subjects into the two experimental groups was deliberately done to split the budding friendship groups which developed. . . . [pp. 245-246]

In addition, the two experimental groups for Stage II were equated in other respects as much as possible without violating the requirements of the sociogram results. Chief among these characteristics were physical size and strength, ability in games, and intelligence and personality ratings made previously on the basis of tests by psychologists.

STAGE II

Stage II was the period of experimental in-group formation, which lasted five days. After breakfast, the boys were told that the camp would be divided into two groups to make it easier to carry out their preferred activities. The lists of names in each group were read, and for identification purposes one group was assigned the color red and the other blue. The groups were then told that they could decide which of the two bunkhouses they would take. . . .

It had been anticipated that this split into two groups might not be taken easily by some of the boys. For this reason, immediately after the bunkhouse change was made, cars took each group separately from the camp for a hike and cook-out, activities which had first preference with most of the boys. The cook-out supplies were particularly sumptuous, including steak for broiling over open fires. . . .

During Stage II, the two experimental groups were separated physically as much as possible chiefly by scheduling their activities on the camp grounds and away from the immediate vicinity of the buildings and play area at alternating times. They lived in separate bunkhouses, ate at separate tables, served on K.P. on alternate days, and engaged separately in frequent hikes, overnight camping trips, etc. Swimming was engaged in separately by the two groups. The groups very soon found their own special swimming places some distance apart. One of these, the Bull Dogs', was secret from the other group.

The activities of Stage II required that members of each group coöperate collectively in achieving their ends. In addition to hiking, overnight camping trips, and swimming, other group activities were carried out. For example, each group had a "Treasure Hunt" which had to be solved as a group and engaged in such games as bean toss, in which each member had to collect beans so that the whole group found the required number of beans to win a group reward. A sum of money ($10.00) was given to each group to spend as they chose. . . . Considerable group effort went to improving their cabins, stenciling insignia on T-shirts, making standards, signs, game equipment for the group, etc. Both groups had private hide-outs which they worked collectively to improve. (The Red Devils built a lean-to; the Bull Dogs worked hard to improve their swimming place by removing stones.) In addition, the groups sometimes engaged in craftwork, collecting wildlife, and the like. The activities were varied and afforded *ample opportunity for each boy to show his worth in some line of pursuit.* [pp. 247-248]

. . . By the end of Stage II, the Bull Dog group was a more closely knit, well-organized, and functioning unit than the Red Devil group. . . . It is easily seen that the gap between the leaders and the majority of group members in the Red Devil group is much greater than that in the Bull Dog group. . . .

Status relations in the Bull Dog group

In the Bull Dog group, Crane rose to the leadership position by his greater contribution in the planning and execution of common activities and by regulating and integrating the tasks and roles of the group members. Crane was one of the taller boys, though not one of the best athletes. Like the other boys, he came from a lower-middle-class family. He was the youngest of three children, being seven years younger than his sister. The psychologist noted prior to the experiment that his I.Q. was 100. At the outset, Crane successfully swung the vote to move to the new bunkhouse. When they arrived at the bunkhouse, a general discussion ensued concerning what could be done to fix it up. One boy, noticing a small picture of a dachshund on a bedpost, said, "Why don't we get some pictures of some animals?" Crane: "Yes, we have the blue and white colors. Let's get a big picture of a bulldog and call ourselves the Bull Dogs." There were shouts of "Yes!" followed by the singing of the Bull Dog song made famous at Yale. . . .

Crane helped, assisted, or showed concern about other group members more than any other boy. For example, he administered first aid. . . . When Thomas hurt his leg, Crane counseled him: "Take a rest." As Carlson carried rocks out of their pool, he was advised, "Carlson, don't strain yourself." Such concern was not confined to special buddies or lieutenants in the group. One boy in the group, Harvey, was low in status and was the only boy having waves of homesickness. He was particularly interested in nature study, and Crane showed concern about the welfare of Harvey's collection of pets and specimens on several occasions, at times helping him hunt. He frequently praised other group members and instigated group praise. . . . [pp. 252-254]

Status relations in the Red Devil group

In the Red Devil group, the focus of power relations during Stage II was Shaw. . . . In contrast to Crane of the Bull Dogs, who gained leadership principally through his planning and coördinating functions, Shaw was recognized primarily for his daring, his athletic skill, and his "toughness." Shaw was an attractive blond boy, among the more athletic in the camp. He was an only child and average in intelligence, according to the test results. . . . [pp. 256-257]

Shaw led the group effectively in games and in daring expeditions into the woods, etc. But he was not so effective in organizing and coordinating other in-group activities. Since Lee, the other boy who might have achieved the leadership position, did not make moves to do so, the group attacked common plans and problems which they made or met in relatively unorganized manner. On the third day, the Red Devils decided to build a lean-to in the woods. No clear-cut group plans for building it emerged. The boys tended to go at the job individually. But Shaw's influence was revealed by the following incident: When Shaw scratched his hand and withdrew temporarily, the others became listless and the work came almost to a standstill. . . . [p. 258]

Along with group structure and the increasing identification with the group, products were standardized within the in-group which served further to crystallize and stabilize the in-groups. One example of such standardization was, of course, the names of the groups. In addition, most of the boys were quickly given nicknames. For example, because their real names were associated with brand names of these products, one boy was dubbed "Radio," and another was called "Cough Drop." Other nicknames clearly referred to individual characteristics of the boys. In the Bull Dog group, Hall, the athletic leader, was admiringly called "Horrible Hall"; others were called "Bonehead," "Screwball," "Bugs." Interestingly enough, the leader of this group, Crane, was the only boy respectfully called by his own first name. The leader of the Red Devils, Shaw, was tagged to typify his toughness and attractive blond appearance as "Baby Face." . . .

Each group came to prefer certain songs. In some of them they inserted their own group's name in a glorifying fashion and the name of the other group in a less complimentary way.

Both groups standardized methods of punishment. In the Red Devil group, sanctions were imposed by Shaw, the leader, through threats or actual "roughing up." In the Bull Dog group, a more elaborate system of sanctions was devised. . . . The first, and least important, was added K.P. duty for the offender. The more frequent punishment was the obligation to remove a certain number of heavy stones, usually ten, from Bull Dog Pond. Later different numbers of "points" were given for different sizes of stones, the points being judged by Crane. . . .

Total choices of friends, end of Stage II

	Choices received by:	
Choices made by:	Red Devils	Bull Dogs
Red Devils	95.0%	5.0%
Bull Dogs	12.3%	87.7%

On the second day of Stage II, Crane instituted an oath of secrecy which was sworn to by each Bull Dog and by any staff members who ventured to their secret camping place and pool, as follows: "I swear not to tell our secret swimming hole or any of the secrets of the Bull Dog Cabin." . . .

All of the decorations in the cabins, stenciling of T-shirts, hats (Bull Dogs), craft materials for making watch chains, lanyards, etc., were in the appropriate colors. Posters were consistently made with blue or red crayon as the case might be, although many boxes of crayons with a variety of colors were provided. Harvey, a Bull Dog, insisted on leading the group to camp from a hike because his knapsack was wrapped in a blue sweater.

The two in-groups developed characteristic ways of doing things. For instance, each group made lanyards by different methods, which were not original to them but which were standardized for the respective group. The Bull Dogs had periodic cleanup by their own method, devised and enforced by Crane. The boys lined up at arm's length and walked back and forth across the grounds until they had covered the area, picking up paper, etc., as they went. . . . [pp. 261-263]

The most urgent manifestations of competition at this stage were confined chiefly to the desire to participate in the most attractive of all pastimes for American boys of this age—competition in sports. Both this desire for competition and spontaneous derogation of the other group in specific respects can be traced to the cultural background of these boys, specifically socialization in a society in which a competitive and aggressive behavior is at a premium.

Reversals in friendship choices in Stage II

One of the crucial tests of the study was whether or not these experimentally introduced in-group relationships would bring shifts or reversals in the friendship ties nascent in Stage I on the basis of personal likes or affinities. At the end of Stage II, friendship choices were again obtained through informal talks with each boy. It should be emphasized that the wording made it clear that the boys were free to mention those boys they liked to be with best *in the whole camp*, i.e., from the other group as well as their own.

Such reversals in friendship choices were found, and were quite clearly indicated by behavioral observations as well. (During Stage

II, there were frequent instances of former friends' ignoring one another, or failing to respond to the call of a former friend.) The table gives the choices of friends for the two groups at the end of Stage II. [pp. 267-268]

STAGE III: INTERGROUP RELATIONS

The stage of *intergroup relations,* which lasted formally nearly five days, involved bringing the two experimental groups—each with varying in-group structures and strengthening friendships within the in-group—into functional relationships which were competitive and mildly frustrating to one another. The frustrating situations were planned in such a way that on the whole they seemed to one group to have been caused by the other.

At breakfast on the first day of Stage III a series of competitive games was announced as though giving in to the boys' requests. . . .

The prize to the winning group was displayed and much admired—12 four-bladed camping knives, one for each member of the winning group. A poster with two thermometers was placed on the bulletin board and the rising score of each group filled in. This poster became a center of attention for the competing groups. . . .

The effects of competitive games were not immediate. Observers all noted considerable "good sportsmanship" on the part of the two groups at the start. For example, after the first contest, the winning Bull Dogs spontaneously gave a cheer for the losers; and the losing Red Devils, though still scattered around the field, responded as a group with a cheer for the winning Bull Dogs. This was repeated after the soccer game on the second day. However, as the contest progressed, the cheer changed. It started out as "2-4-6-8, who do we appreciate," followed by the name of the other team. It changed to "2-4-6-8, who do we appreci-*hate.*"

The first three days of Stage III began with a tug-of-war between the two groups. The group members organized themselves and exhorted each other in the intense common effort. The Red Devils lost the first contest. Their reaction to the loss represents one of many *perceptual* distortions occurring in these competitive group situations. All Red Devils were convinced that they lost because "the ground was against us." They spent most of the morning discussing this and their strategy for the next tug-of-war. On the following day, the Red Devils had pulled four Bull Dogs across the line and it looked as if they would win. But the Bull Dogs' leader began a series of shouts and encouragement to his boys. This apparently made possible a "second wind" in which the Bull Dogs regained their lost ground and finally defeated the Red Devils again. This time, the Red Devils rationalized their defeat by agreeing that the Bull Dogs "must have done something to the rope." . . . [pp. 271-273]

As shown by the points won, the Bull Dog group pulled into the lead on the first day and remained there. The adult observers all agreed that the teams were fairly matched in terms of individual players, but that the Bull Dog group had much more effective team organization. We have seen that the Bull Dogs recognized this fact. Even the Red Devils were not unaware of it. Bray, a Red Devil lieutenant, said on the third day, "The trouble is we don't coöperate." But as a group, the Red Devils responded to their increasingly apparent losing position by labeling the Bull Dogs "dirty players." They were sure that they could win if the Bull Dogs were not "such cheaters." They said, "At least we play fair." During the games, epithets—"dirty players," "cheats"—were hurled at the Bull Dogs. By the contest's end, the words "dirty players" and "cheats" were almost synonymous with Bull Dogs as far as the Red Devils were concerned. . . .

The cumulative effect of the competitive games caused considerable group friction and, to the Red Devils, considerable frustration. The common expressions of the winning Bull Dogs and the losing Red Devils in pictures taken immediately following the victory of the Bull Dogs in the athletic series convey this fact objectively.

The winning Bull Dogs were tremendously elated at their victory. The reward of knives was distributed by putting all the knives in a bucket which had been lined with a cloth to prevent scratching. Then each boy was blind-folded and picked a knife from the bucket. Thus, not even the high-status members had advantage in choosing preferred colors. (This was the idea of the leader, Crane.)

The losing group of Red Devils was by this time seriously weakened. In their particular case, group failure was conducive to signs of *disintegration*. Before the contest was over, Shaw, the leader, had become vindictive. After the third loss at tug-of-war he accused the front men of not "digging in." He blamed and ridiculed other members of his own group for the losses. . . . [pp. 275-276]

. . . Several situations were planned by the staff involving frustrations of the groups which would seem to be the fault of the other group. But only one was carried out because of its extreme effectiveness and the further frustrating circumstances which arose from it.

On the evening of the Bull Dogs' victory over the Red Devils in the athletic series and camp competition, both groups were asked to attend a party in the mess hall. . . . By careful timing and by indirectly interesting the Bull Dogs in something else momentarily, the participant observers were able to see to it that the Red Devils got to the mess hall for a few minutes before the Bull Dogs. None of the subjects in either group suspected that this timing was deliberate.

The refreshments of ice cream and cake were on a table. Half of them had been battered, broken, or crushed to appear as though something had happened to them in transit; the other half remained whole and delectable. When the Red Devils arrived, they were told to serve themselves and to leave the Bull Dogs their share. As we know, the Red Devils were the defeated group and had manifested considerable frustration and envy of the Bull Dogs for winning the highly valued knives.

Faced with the refreshments, half fresh and appetizing and half broken and crushed, the Red Devils, without any comment, picked up the good portion and carried it to their own table. At this point the Bull Dogs arrived. Upon seeing the sorry-looking refreshments left for them and those the Red Devils had taken, they immediately protested by sulking and by remarks of hostility against the Red Devils ("Pigs," "Bums," and more objectionable terms). The Red Devils were at first rather complacent, justifying their actions in terms of "first come, first served," which became the standardized justification for all Red Devil members.

The Bull Dogs discussed the possibility of throwing their beaten-up cake at the Red Devils, but decided against it on the grounds that, after all, it would taste good. They went to their table and proceeded to hurl insults and names at the Red Devils. . . .

Hall, the Bull Dogs' athletic captain, sauntered insolently over to the Red Devil table and flaunted his knife before them. The Red Devils ate their refreshments in righteous indignation. The leaders remained more silent and sullen than the rest of the group at the "unjustified" attack. Shaw said little. Lee, the chief lieutenant, told the group to "ignore it." But especially Darlton, Canfield, Fenwick, and Harding—all at the bottom of the Red Devil hierarchy—responded with name calling at the Bull Dogs, the most common being the already standardized "dirty players" and "cheats." . . .

The following morning, during breakfast, the Red Devils deliberately dirtied their table by spilling cocoa, milk, crumbs, etc., to make the cleanup work hard for the Bull Dogs, who were on K.P. that day. Shaw endorsed this action, although after breakfast he and Lee were again seen chatting with Hall of the Bull Dogs. When the Bull Dogs saw the messy table, they decided to mess it up further and leave it that way. Crane, the Bull Dog leader, objected to this idea, but Hall and others prevailed. Crane then joined in helping them to smear the table with more cocoa, sugar, syrup, etc. The table was soon alive with bees and wasps. The Bull Dogs hung the walls with threatening and derogatory posters against the Red Devils, and left the mess hall. . . .

The Bull Dogs set the tables before lunch, putting the Red Devils' table service on the sticky table humming with insects. When the Red Devils saw their table, they were furious. They tore down any signs nearby. A staff member told everyone to stand by their tables for grace. The Red Devils stood by the table, but immediately afterward moved to a table at the far side of the hall from the Bull Dogs. As the meal progressed, names and insults were hurled back and forth with increasing intensity. Finally the groups were lined up against one another throwing waste material, food, sponges at each other. . . .

When the boys began throwing table knives and saucers and the altercation threatened to be a violent physical struggle, the staff intervened quickly and stopped the fighting with considerable effort.

At this point, it was quickly decided to stop Stage III of the experiment immediately and to concentrate on breaking down the in-groups. The decision was to stop the intense intergroup conflict by any means necessary and then to initiate a camp program in which all boys would participate on a camp-wide basis. The experiment, from the point of view of controlling the situation, was over at this point. The instructions to all staff members were to do away with the hostility as much as possible in order to send everyone home feeling good. There was no systematic attempt at integration after Stage III. . . .

The events which followed the fight at luncheon should be viewed in this context. Participant observers and junior counselors, as well as the camp director, were making genuine efforts to prevent any further conflict and to proceed to the camp-wide activities planned. There was preaching to this effect and verbal counsel. The quarrels that did break out were stopped as soon as possible.

At about 2:30 in the afternoon the Red Devils were upstairs in the clubroom of their bunkhouse calling names at a few Bull Dogs outside, who were responding with taunts and epithets. A few green apples began to be tossed by both sides. Shortly a full-scale fight was going on, during which two windows were broken. . . . The Bull Dogs' junior counselor rushed to the scene, blew his whistle, and told them all to stop. Slowly the Bull Dogs withdrew to their own cabin area. The staff member went inside the Red Devil cabin and saw Lee starting to clean up the mess. Lee refused the help of this Bull Dog counselor in cleaning up, on the grounds that *he* wouldn't help a *Bull Dog.* Other Red Devils wanted the staff member to leave. They were upset at the staff's trying to make peace while they hadn't "gotten even." At this point, some of the Bull Dogs attacked the cabin again, throwing green apples. The counselor went outside and ordered them to stop. Two Bull Dogs refused, saying if he tried to stop them he would have the whole group against him. The staff member replied that if necessary he would stop each of them personally. He finally persuaded four Bull Dogs to help him clean up the Red Devil cabin. . . .

It seemed that the fighting would stop. But the lower-status members in the Red Devils still talked of revenge; and the Bull Dog group wanted to be prepared "in case." During the afternoon, both groups made unauthorized expeditions to collect green apples. . . . When the Red Devils noticed that some Bull Dogs were also collecting green apples, they planned a raid on the Bull Dog cabin which they carried out while the Bull Dogs were away. . . . When the Bull Dogs returned to their cabin, the cry went up, "Our apples are gone!" Wood, a low-status member, said, "That's war." But Crane called the group together and organized a detail to raid the Red Devil cabin while the Red Devils were cooking out and instructed them to take back only the apples that had been stolen. A Red Devil, who had come back to the camp from their cook-out location, spotted the group and ran to inform the Red Devils. The Bull Dog detail returned with the apples stolen plus a few more. By this time, Red Devils were returning to the camp from various directions. The Red Devils led by Shaw went to their cabin. Their counselors had not yet arrived. An adult staff member of the Bull Dogs intervened. At his insistence that they have peace, Hall, the athletic leader who had been on somewhat friendly terms with Shaw and Lee of the Red Devils after the athletic series, was chosen to make a peace mission. He joined into the spirit, shouting to the Bull Dogs, "Keep your big mouths shut. I'm going to see if we can make peace. We want peace."

Hall went to the Red Devil cabin. The door was shut in his face. He called up that the Bull Dogs had only taken their own apples back, and that they wanted peace. His explanation was rejected, and his peaceful intentions were derided. He ran from the bunkhouse in a hail of green apples. The Red Devils were all furious. . . .

In spite of the fact that the Red Devils were dead-tired from the activities of the day, they succeeded in awakening and dressing at 2 A.M. with the intention of raiding the Bull Dogs. This attempted raid was a planned "upper-crust" affair, led by Shaw and his lieutenants. The raid was stopped by the participant observer and junior counselor, who were asleep in the cabin, when one of the would-be raiders kicked over a container of green apples which were to be used as ammunition. . . .

The degree of hostility between the two groups can be clearly seen in the posters which were made by the boys and hung in the mess hall (at lunch) and in each other's cabins during the raids. These posters were made in every case by boys low in status in their respective groups. This fact, along with other evidence, including especially the determination of lower-status Red Devils to "get even," suggests that manifestations of intergroup hostility and rivalry of group members low in status may at times be more intense than the manifestations of members higher in status. It seems that low-status members, having greater strivings for status within the group, may go to greater lengths in trying to gain recognition by showing identification and loyalty to the in-group. . . . [pp. 277-284]

Probably the most effective event for the breaking up of the groups was a camp-wide softball game in which a team of the best players from both in-groups elected by the boys from the entire camp competed on the camp grounds with a group coming from the neighboring town. In this game the boys participated as *campers,* not as in-group members. They all cheered for the camp (except for Thomas, who inserted "Bull Dogs" into the cheer). The camp team easily won the game, and there was considerable feeling of common pride following it. However, it should be recognized that our future efforts in studying integration between hostile in-groups should not be started by uniting the in-groups for further conflict against still another in-group. This procedure amounts to creating frictions between larger social units and conflict of larger proportions. [pp. 285-286]

Underlying the conception of this study and others to follow is the guiding principle that reactions of the individual take place within reference frames, to which both internal and external factors contribute in a functionally interrelated fashion. In terms of this preliminary study, this means that the reactions of individual members must be understood in terms of the group setting in which they take place, in addition to their individual contributions to this group setting. The group setting constitutes not merely the in-group, its relationships and norms governing in-group activity, but the in-group in its relationships to out-groups and the norms which arise on the basis of these group relationships. We cannot hope to understand attitudes and behavior of individuals toward members of other groups without placing the individuals within such group settings. It is for this reason that attempts to explain group prejudice, social distance, and antagonism, or attitudes of harmony or admiration between groups in terms of the needs or motives of the individual alone are so inadequate in meeting the known facts concerning intergroup attitudes and behavior, and rather unrewarding in pointing ways to alter or even reduce intergroup tensions in a consequential way. [p. 288]

[Another phase of this experiment was carried out a few summers later in a camp in Oklahoma.[3] Again the boys were separated into two groups, and again each group developed a leader, internal organization, a name, special ways of performing tasks, jargon, nicknames, secrets, symbols, and so on. Each also developed the same hostility and contempt for the other as shown between the Red Devils and the Bull Dogs in the first experiment. With athletic contests and other occasions for rivalry between the groups, coöperativeness and democratic behavior increased *within* the groups but did not appear at all in the relations between the groups. . . . Below is Sherif's conclusion.]

---

[3] Sherif, "Experiments in Group Conflict," **Scientific American,** Nov. 1956, 195:54-58. This later experiment is also reported in Sherif, **An Outline of Social Psychology,** rev. ed. (New York: Harper, 1956), ch. 9, esp. pp. 301-331.

Efforts to reduce friction and prejudice between groups in our society have usually followed rather different methods. Much attention has been given to bringing members of hostile groups together socially, to communicating accurate and favorable information about one group to the other, and to bringing the leaders of groups together to enlist their influence. But as everyone knows, such measures sometimes reduce intergroup tensions and sometimes do not. Social contacts, as our experiments demonstrated, may only serve as occasions for intensifying conflict. Favorable information about a disliked group may be ignored or reinterpreted to fit stereotyped notions about the group. Leaders cannot act without regard for the prevailing temper of their own groups.

What our limited experiments have shown is that the possibilities for achieving harmony are greatly enhanced when groups are brought together to work toward common ends. Then favorable information about a disliked group is seen in a new light, and leaders are in a position to take bolder steps toward coöperation. In short, hostility gives way when groups pull together to achieve overriding goals which are real and compelling to all concerned.[4]

---

[4] *Ibid.*, p. 58.

Dimensions of Leadership Behavior in Classroom Discussion Groups

Claude J. Bartlett[5]

Leadership is an important aspect of group interaction. Leaders, whether natural, appointed, or elected, affect and are affected by the group process. What are leadership traits? How do group members perceive qualities of leadership within their group? The following study seeks to identify the dimensions of leadership in classroom groups.

Although many studies have been done in the search for the dimensions or traits of leadership behavior, an almost equally large number of dimensions of leadership have emerged. Certainly many of the dimensions found have been similar, and their difference may in some cases be a function of the interpretation of the studies. However, enough evidence has been accumulated to indicate that leadership does not involve the same behavior in all situations.

The purpose of this study was to identify the dimensions of leadership behavior in classroom groups. It was conducted in a classroom situation where the group discussion method was used as the principal teaching method. This situation offered an excellent opportunity in which to study leadership behavior, since the class members worked in a discussion situation for approximately 12 weeks. Thus, the group members spent enough time in group discussion to demonstrate their abilities for leadership. In this particular situation, there was also considerable motivation to participate in discussion since a portion of the class grade is dependent upon contribution to group discussions.

---

[5] from Journal of Educational Psychology, Vol. 50, No. 6, 1959, pp. 280-284. Reprinted by permission of author and publisher.

METHOD

The subjects used for this study were students in an introductory course in educational psychology in which the small group discussion technique was used as the principal method of instruction. At the beginning of the quarter each class was divided into several groups of four to six students each. Each group worked separately on various topic questions and projects. The class procedure afforded an opportunity for the students to evidence leadership behavior and to become acquainted with other members of the group in a discussion situation.

Leadership was defined as being perceived as a leader by the other members of a discussion group. Students from three different classes (about 75 students) were asked to write essays describing the behavior of the most outstanding leader in their discussion group. They were asked to describe the behavior of the person chosen as a leader rather than write an essay on an ideal leader. Thus, the descriptions received tended to contain concrete behavioral descriptions of persons perceived as group leaders. These essays provided a source of short descriptions of the behavior which could be used as items in a descriptive check list. Three hundred phrases were obtained.

The Wherry-Winer Method of factor analyzing large numbers of items was utilized in analyzing the dimensions of leadership behavior. The items were grouped into the following categories for the purpose of analysis: (*a*) Intelligence (*b*) Personal acceptability (*c*) Motivation (*d*) Group organization (*e*) Democratic-autocratic (*f*) Self-organization. Items were selected to represent these categories on the basis of expert (advanced graduate students in psychology) agreement. A criterion of 80% agreement or better for the five experts used was required before an item was included in a category. At least 20 items were used to define each category.

The check list was administered to 100 students of the introductory educational psychology class, divided into three approximately equal groups. The first group was asked to think of someone in the upper half of the class in terms of leadership qualities. The second group was asked to think of a person from the lower half in terms of leadership. The rest were asked to think of someone who was about average. After a student had called to mind a particular group member, he was asked to consider the 300 phrases, one at a time, as they applied to this individual responding to each phrase on a five-point scale of applicability.

A rating on overall leadership by a group member was also obtained for each student. The applicability rating on each phrase was correlated with the leadership rating. Substantial positive correlations were obtained for almost all phrases, indicating that the phrases described the positive aspects of leadership.

Category scores were obtained for each of the 100 students on the six tentative categories. The six categories were intercorrelated and the Z portion of the Wherry test selection procedure was used to select categories. Categories whose unpredicted variance fell below .20 were eliminated. This procedure is suggested by Wherry and Winer. Wherry and Winer also suggest that these categories may be assumed to be good estimates of the centroids that would be defined by the corresponding interitem correlations. Thus, the correlations between the selected categories and the 300 items may be considered as the oblique factor loadings as defined by these categories. A method suggested by Wherry was used to transfer these estimates of oblique loadings with simple structure preserved among the group factors. Two hand rotations were performed to clarify the simple structure and interpretation of the group factors.

RESULTS

A general factor and four group factors emerged from the analysis. Almost all of the 300 phrases received substantial loadings on the general factor and one of the group factors.

In the interest of economy of space, only the 15 phrases which show the highest loading on each factor are reported. . . .

I. Halo

This factor shows substantial loadings on almost all of the phrases. Thus, it seems to be a general tendency to rate a person high or low on the basis of some general impression toward the person being rated. The phrases showing the highest loadings on this factor also correlated highly with a rating on overall leadership, indicating that this halo may have been a function of characteristics which are possessed by leaders. For this reason an interpretation of general leadership ability might also be appropriate for this factor. However, since the ratings on overall leadership were also subject to the halo effect, an interpretation of halo or general bias seems more appropriate.

The fifteen phrases which have the highest loadings on this factor are given with their respective loadings as follows:

Ideas show good judgment (.84)
Ideas are excellent (.83)
Makes many worthwhile comments (.83)
Answers wisely (.82)
Has good judgment (.82)
Gives well thought out answers (.82)
Has many intelligent ideas (.81)
Suggestions are worthwhile (.81)
Has good ideas (.81)
Is a good thinker (.81)
Does important things well (.81)
Gives better arguments than others (.80)
Serves as guide to rest of group (.80)
Says things that are constructive (.80)
Is on the ball (.80)

II. Contribution of ideas and information

This factor seems to be made up of phrases which describe a person who is not only perceived as being intelligent, but also as having a fund of information to contribute to the group. In a classroom discussion situation, the presence of this kind of person seems appropriate.

The 15 phrases with highest loadings on this factor follow:

He knows his stuff (.36)
Very intelligent person (.36)
Knows what he is talking about (.36)
Can grasp essentials of situation (.34)
Gets best test grades in class (.34)
Expresses ideas well (.33)
Thinking is original (.32)
Suggestions are worthwhile (.32)
Well-informed (.31)
Knows his stuff (.31)
Is a real brain (.30)
Able to evaluate suggestions of others (.30)
Has many intelligent ideas (.30)
Has good ideas (.30)
Knows more than others in the group (.29)

III. Contribution of friendly atmosphere

The phrases loading on this factor seem to describe the type of person who is easy to get along with and who might serve as a morale booster in a group discussion. Although this type of person may not contribute to the goal of the group directly, the friendly atmosphere created may work indirectly in aiding a group to achieve its goals.

The phrases representing this factor with their respective factor loadings are as follows:

Well-liked by all (.57)
Easy to get along with (.55)
Friendly (.55)
Always very pleasant (.54)
Manner is pleasant (.54)
Well-liked by others (.52)
Very friendly (.52)
Seems to have a likeable personality (.51)
Has an agreeable disposition (.50)
Always willing to listen to the other side of an argument (.47)
Always has a smile (.47)
Very agreeable (.47)
Does not overexercise power as a leader (.46)
Does not acquire resentment of others in group (.46)
Always cooperative (.46)

IV. Contribution of labor and effort

The phrases which make up this factor describe a person who is the "work horse" of the discussion group. This type of person contributes to the group by taking responsibility for such things as writing reports, bringing in material, and taking care of details.

The phrases which represent this factor and their loadings follow:

A hard worker (.65)
More than willing to do his share (.59)
Willing to do extra things (.53)
Takes more than his share of work home (.52)
Always ready to serve (.51)
Willing to work (.50)

Shows a persistent effort (.49)
Not afraid to do more than his share (.49)
Is a good worker (.48)
Seems to enjoy work (.46)
Does not sit by and let others do the work (.45)
Takes responsibility very seriously (.44)
Earnest about work (.43)
Shows enthusiasm in all projects (.41)
Does work outside of class (.41)

V. Contribution of policy and decisions

The phrases which define this factor describe a person who sees himself as the central figure of the group. This type person pushes the group toward a decision, even at the risk of making it a personal rather than group decision. This factor seems to represent the behavior of a person who might be placed in the traditional category of autocratic leader. The phrases defining this factor follow with their respective loadings:

Often inclined to think he is the only one right (.56)
Insists on his way (.56)
Prefers to do entire project by himself (.49)
Often seems to dominate group discussions (.44)
Doesn't listen to others' opinions (.40)
Not always democratic (.39)
Quite dominant (.35)
Forever involved in a discussion (.35)
Seldom changes his opinion (.35)
Leaves more "timid souls" of group behind (.33)
Argues his point until convinced he is wrong (.33)
Has a solution for every problem (.31)
Argues his point until he convinces others (.30)
Always willing to add an extra word (.27)
Comments arouse controversy (.25)

DISCUSSION

The general factor was expected to emerge from this analysis, since all of the phrases which were used were descriptions of the behavior of persons who were leaders in a discussion group situation. Also in check list rating scales, a general factor would be expected, since response bias is not controlled. Since most of the phrases which have highest loadings on the general factor also have high loadings on the factor indicating a Contribution of Ideas and Information, it would seem that this is the kind of contribution a group member should make if he aspires to being classified as the group leader. The halo in ratings of students in the classroom appears to be set by academic type performance.

The four group factors were interpreted in terms of four different ways of contributing to group activity. These four dimensions of group contribution suggest four independent ways by which a person can become a group leader. The person who could contribute to a group in all of these ways would, presumably, be the more desirable type leader, but such persons are in limited supply. It might be hypothesized that a group made up of four persons, each strong in one of the areas defined by the group factor, would be an efficient group. . . .

In viewing the dimensions found in this study as they are related to dimensions of leadership found by others, two of the group factors from the present study seemed to be similar to factors found in studying leadership behavior in other situations. The two strongest factors (in terms of percentage of total variance explained) of the Ohio State University Leadership Studies, as reported by Halpin and Winer, were Consideration and Initiating Structure. The Consideration factor seems to be similar to the factor indicating Contribution of Friendly Atmosphere, which was found in the present study. The factor, Initiating Structure, appears to be similar to the factor of the present study, Contribution of Policy and Decisions.

The two factors, Contribution of Ideas and Information and Contribution of Labor and Effort, appear to be a function of the classroom situation. In this situation the group orientation is toward learning the course-related materials. Thus, ideas and information play an important rôle. In these groups of students, the work done in achieving the goals of the group is done by the students who make up the group. Thus, the leader of the group would also be expected to do his share of the work.

SUMMARY

A factor analysis of 300 phrases describing leadership behavior in classroom discussion groups was done using the Wherry-Winer Method. The study was done to examine the dimensions of leadership behavior in a classroom group discussion situation. The analysis yielded four group factors and a large general factor. The general factor was interpreted as a general tendency to make high or low applicability ratings of the phrases on the basis of the halo effect. The four group factors were interpreted in terms of the ways which a group member can contribute to the group discussion: ideas and information, friendly atmosphere, labor and effort, policy and decisions.

Teacher Competence and Pupil Change

Walter I. Ackerman[6]

The role any teacher plays most of the time is that of group leader. Therefore, the teacher's effectiveness must be measured in terms of changes in the behavior of the pupils in his group or groups. How can we measure both pupil change and teacher competence in relation to these changes? The following is a survey report of the major studies to date in this important area.

No little has been written concerning the need for an objective and reliable measure and predictor of teacher competence. The desirability of such a tool hardly needs elaboration. A bibliography compiled by Domas and Tiedeman lists over one thousand items in this area. Despite this mass of material, however, there is hardly any conclusive evidence as to the nature and means of identifying teacher competence.

Broadly speaking, the various types of teacher evaluation for competence and effectiveness may be divided into the following categories:

(1) studies based upon the consensus of expert opinion as to the characteristics and prerequisites of competency and efficiency

(2) studies using school grades, practice teaching grades and ratings of student teaching as the criteria of teaching efficiency

(3) studies using supervisory in-service ratings, self-ratings and ratings by fellow teachers as the criteria of teacher competence

(4) studies using pupil opinion and reaction as the criteria of teacher effectiveness

(5) studies using measured pupil change as the criterion of teacher competence.

In the pages that follow we propose a review of those studies which use measured pupil change as the criterion of teacher competence. Only those studies which attempted to relate some measured or observed teacher factor to some measured or observed aspect of pupil change or growth are included. Investigations which relate pupil change or growth to factors other than the teacher will not be dealt with here. A discussion of some general theoretical and methodological problems which arise in attempting an evaluation of competence will follow the review of the research.

II

It is generally assumed that the ultimate criterion of teacher effectiveness is change in pupil behavior. Even where other criteria are used it is agreed that they are only proximate measures of the ultimate goal of pupil change.

---

[6] from Harvard Educational Review, Vol. 24, Jan.-Dec. 1954, pp. 273-289. Reprinted by permission of the publisher.

Whatever the criterion, the determination of teacher effectiveness seeks to answer this question: "Do pupils behave differently from what they would have if the influence of a particular teacher had not been felt?"

A summary description of the attempts made to determine the relationships between the teacher and the change in the pupils under his guidance discloses concern with a number of variables. The initial steps are usually directed towards a systematic measurement and control of teacher factors which are thought to condition pupil change. Investigators have variously directed their attention towards such attributes of the teacher as his intelligence, attitudes, interests, values, training and experience, and social relationships. Measurement of pupil change is arrived at by the application of certain instruments before and after teaching. Pupil change is usually described in terms of the gains made in the mastery of factual information. Only rarely have attempts been made to measure pupil change in terms of attitudes, values, interests and other highly important educational objectives. The final step in the process is a study of the relationship between the teacher factors and the change, or lack of it, produced in the pupils.

In order to facilitate the handling of the material to be presented here it was thought wise to arrange the studies in terms of the teacher variables studied. In every instance the criterion of teacher competence or effectiveness is pupil change. No importance is to be attached to the order of the variables nor is it suggested that any one variable taken by itself supplies us with conclusive evidence as to the antecedents of pupil change. The order of presentation is a matter of convenience only.

A. Age of the teacher

In one of a series of studies designed to determine the validity of certain selected teacher measuring devices when validated against the criterion of pupil change, Rolfe[7] attempted, among other things, to determine the relationship between the age of the teacher and the criterion. More than twenty measures, including intelligence tests, attitude inventories, personality ratings and tests of professional information, were obtained for fifty-seven teachers of one- and two-room rural schools in Wisconsin. Pupil change was determined by the administration of achievement tests before and after instruction in a three-week unit in citizenship. The differences between initial and final scores were adjusted by means of multiple regression to account for pupil differences in initial achievement, intelligence and socio-economic status. The difference between the average of the gains in achievement of a teacher's pupils and the average gains predicted for the group was used as an indication of the teacher's efficiency. There was no significant relationship reported between the age of the teacher and pupil change as measured here.

In testing the hypothesis that the "character of the social relations in the teaching-learning situation may influence the quality of both the teaching and the learning" Brookover[8] investigated the relationship between pupil change and such aspects of the teacher as his age, marital status, his role in the community, his role in the school, his attitude towards his work and his personal social adjustment. The information concerning the teachers was collected and analyzed from a series of questionnaires filled out by pupils, teachers and administrators. Pupil change was determined by the mean gain in scores on an achievement test in U.S. History given before and after the teaching of a unit in that subject. Sixty-six high school teachers were studied. The results of the study indicate that pupil gains in information increased with the age of the teacher up to the age of thirty-eight. After this they decrease. The greatest gains were made by pupils whose teachers ranged in age from twenty-seven to thirty-eight years.

The obvious lack of agreement between these two studies suggests several things. It is possible that the inconsistencies are due to differences in the methods used to determine the degree of pupil change. It is more probable, however, that the reason for the difference in the findings lies in the nature of the variable studied. When isolated from other factors resident in the person of the teacher, it is likely that age is of little significance. Even where a relationship is reported, it is of little value in helping us understand the exact nature of teacher effects on pupils.

---

[7] J. F. Rolfe, "The Measurement of Teaching Ability: Study No. 2," Journal of Experimental Education, Vol. 14, 1945, pp. 52-74.

[8] W. B. Brookover, "The Relation of Social Factors to Teaching Ability," Journal of Experimental Education, Vol. 13, 1945, pp. 191-205.

B. Attitude of the teacher to teachers and teaching

In an attempt to determine that combination of teacher measures which produces the highest correlation with teacher competence as measured by pupil change Rostker[9] included a scale for the measuring of the teacher's attitude towards teachers and the teaching profession. The design of the study called for: (i) the measurement of pupil performance near the beginning and end of the school year; (ii) the measurement of pupil performance prior to and just after the teaching of a selected unit; and (iii) the administration and interpretation of various measures and scales applied to the teachers. Twenty-eight seventh and eighth grade teachers in non-departmentalized schools were studied to determine the relationship between teacher intelligence, attitude, adjustment and professional information and change in pupils as measured by scores on achievement tests. Rostker[10] reports that the teacher's attitude towards teachers and the teaching profession, as measured by the Yaeger Scale for Measuring Attitudes Towards Teachers and the Teaching Profession, is significantly related to pupil change as defined here.

Following a similar procedure, La Duke[11] rated thirty-four seventh and eighth grade teachers in rural schools. Teachers were judged by the gains their pupils made on tests of social studies information given before and after a six-month period devoted to a unit in Community Living. No significant relationship was discovered between pupil change on these tests and the teachers' scores on the Yaeger scale. In the study reported above, Rolfe similarly found no significant correlation between the two variables.

Brookover reported that the teacher's attitude towards his position did not seem to be related to teaching effectiveness as judged by the criterion of pupil change. Gotham[12] attempted to measure the personal qualities thought essential to teaching success and to relate them to the changes produced in the pupils of the teachers studied. A battery of personality tests, the Bernreuter Personality Inventory, the Washburne Social Adjustment Inventory and the Rudisill Scale for the Measurement of the Personality of Elementary School Teachers, in addition to some fifteen other measures, were administered to forty-seven teachers. The three hundred and thirty-eight pupils of these one and two room school teachers were tested for both short and long term changes. No relationship was found between the teacher's attitude towards his work and pupil change.

In two studies conducted by Hellfritzsch[13] the investigator was interested in determining those factors which seemed statistically most significant in the evaluation of teaching ability as measured by the criterion of pupil change. The common factors were found to be: (i) general knowledge and mental ability; (ii) teacher rating scale factors; (iii) personal emotional adjustment; (iv) a eulogizing attitude toward the teaching profession.

In the studies conducted by La Duke, Gotham, Hellfritzsch, Rolfe, and Rostker the same instrument, the Yaeger Scale, was used to measure the teacher's attitude towards teachers and the teaching profession. In this connection it is important to note a study reported by Mathews. Using measured pupil change as the criterion of teacher competence, an item analysis of eleven selected measures of teaching ability was made. The Yaeger Scale was among the measures so treated. On no single test analyzed were more than twelve per cent of the items found to discriminate between teachers whose pupils showed gain in some degree and those teachers whose pupils showed no gain. This finding makes it difficult to accept any of the conclusions reported in this section.

---

[9] L. E. Rostker, "The Measurement of Teaching Ability: Study No. 1," Journal of Experimental Education, Vol. 14, 1945, pp. 6-51.

[10] L. E. Rostker, "A Method for Determining Criteria of Teaching Ability in Terms of Measurable Pupil Changes," Educational Administration and Supervision, Vol. 28, 1942, pp. 1-19.

[11] C. V. La Duke, "The Measurement of Teaching Ability: Study No. 3," Journal of Experimental Education, Vol. 14, 1945, pp. 75-100.

[12] R. E. Gotham, "Personality and Teaching Efficiency," Journal of Experimental Education, Vol. 14, 1945, pp. 157-165.

[13] A. C. Hellfritzsch, "A Factor Analysis of Teaching Abilities," Journal of Experimental Education, Vol. 14, 1945, pp. 166-199.

C. Experience of the teacher

The role of experience in the making of an effective teacher is a much disputed one. On the face of it, there seems to be a strong case for the assumption that, other things being equal, the teacher with the greater amount of experience is the one most likely to be competent. Whatever the truth of this assumption, practice in school systems throughout the country uses it as a guide in the important areas of selection and promotion of teachers. Those studies, however, which attempt to relate pupil change to teacher experience give no cause for such certainty.

Moss, Loman and Hunt[14] report that a chemistry test based on material found in the most commonly used textbooks in college courses of introductory chemistry was administered to 6667 students at the beginning and end of an elementary chemistry course in twenty-eight colleges and universities. The reliability of the test is reported as .90 and its validity when matched with grades given by the instructors of the course was .638. The highest median scores were reported for pupils of instructors who had been teaching from 1-11 years. A noticeable decrease was found in the median scores of pupils of instructors with twelve or more years of teaching experience. Rolfe found that the number of years of teacher experience was insignificant when judged against pupil change as it was defined in his study.

Davis[15] tested the hypothesis that persons who have taught school for a number of years are better teachers than are persons with less experience in teaching. He related pupil scores on state-wide subject area exams in Minnesota to teachers with varying amounts of experience. Subjects for the study came from ninety schools throughout Minnesota. Only those schools with at least a minimum of 30 pupils and 3 teachers were considered. Altogether data was collected from the records of 796 teachers of 13,460 pupils. Davis reported that pupils of teachers with two or more years of experience were more successful in passing the Minnesota State Board Test than were pupils of teachers with one year of experience. Interestingly enough, pupils of teachers with more than two years of experience showed little or no advantage over pupils of teachers with just two years experience.

Betts[16] proposed that children learn more under the tutelage of a trained, experienced and reputedly superior teacher than would be the case if they were taught by a novice. A test, consisting of twelve sub-tests, was administered to two contrasting groups of teachers—novices and experienced. These teachers rated themselves on a number of variables thought to be essential to successful teaching. Among the variables were the following: the acuity with which the teacher perceives the relative importance of certain teaching activities; the ease with which the teacher adapts himself to difficult tasks; the ability of the teacher to adapt himself to certain conditions of teaching; and, several other aspects of the teacher's personality and skills. The scoring scheme was so revised that the experienced teachers did in fact score higher than the novices. The test was then administered a second time. The criterion of teaching ability was pupil scores on a standardized achievement test. The correlation between the novice-experience dimension and pupil change, with initial pupil ability and age held constant, was six times its probable error.

One might question whether the differences in pupil change described by Betts can be accounted for by experience alone. True the test does discriminate between the novice and the superior teacher. But these two categories of teachers have been defined in an *a priori* fashion without reference to objective data. It hardly seems likely that such variables as personal adaptability, distractability, race prejudices and comprehension of reading material are functions of experience alone. While one might tentatively agree that these are the requisites of success in teaching, he must hesitate before conceding that these qualities are concomitants of experience.

---

[14] F. A. Moss, W. M. Loman, and T. Hunt, "Impersonal Measurement of Teaching," **Educational Record**, Vol. 10, 1929, pp. 40-50.

[15] H. M. Davis, **The Use of State High School Examinations as an Instrument for Judging the Work of Teachers**, Teachers College Contributions to Education, No. 611 (New York, Columbia Univ., 1934), p. 101.

[16] G. L. Betts, "Evaluation Through Rating and Other Measures of Success," **Special Survey Studies, National Survey of the Education of Teachers**, Vol. 5, Bulletin No. 10, 1933, U.S. Office of Education, pp. 87-153.

D. Intelligence of the teacher

Several investigators have turned their attention to the teacher's intelligence and mental abilities in the belief that these may be important factors in conditioning pupil change. Both Rostker and La Duke reported that the teacher's intelligence was significantly related to pupil change. In both of these studies the teacher's intelligence was measured by the American Council on Education Psychological Examination. Using the same exam Rolfe found no relationship between the criterion and the teacher variable.

The subjects of Rolfe's study were, however, drawn from a population different from that of the other two reports noted in this section. Rolfe studied pupils and teachers from one and two room schools. Each teacher taught more than one grade at a time. The teachers in the studies of Rostker and La Duke were responsible for only one class on one grade level. It is possible that where a teacher works with several grades in one classroom his influence on the pupils is considerably less than that of the teacher who is responsible to one grade only. Like Rolfe, Gotham studied pupils and teachers in one and two room schools. Here again no significant relationship was discovered between teacher intelligence and pupil changes.

Barr[17] studied the teachers of sixty-six classes to determine the validity of ten selected measures of teaching ability. The criterion of teaching ability was pupil change as measured by pupil scores on the Stanford Achievement Test. The relationship between teacher scores on the American Council on Education Psychological Exam and pupil scores on the achievement test was extremely low. In fact, the correlations between all the teacher measures and the criterion were "uniformly low."

Several reasons suggest themselves for the inconsistencies reported in the studies cited above. There may, in truth, be no relationship between the two variables studied. The lack of conclusive evidence may be due to errors of measurement. It is also possible that the teacher variable here studied is too narrow a range of teacher talent to provide reliable results.

E. Professional information of the teacher

In this section our attention will be directed towards the following: the teacher's knowledge of his field; his knowledge of and attitude towards related fields such as mental hygiene, and the particular conception of educational objectives that the teacher has.

Rostker reported that the teacher's knowledge of his subject matter and his ability to "diagnose and correct pupil mental maladjustment" are each significantly related to teaching ability. La Duke found that a teacher's knowledge of the theory and practice of mental hygiene is positively but not significantly related to teaching efficiency. In this same study it was reported that there was little or no difference between the scores of pupils of teachers judged liberal or conservative with regard to educational objectives.

F. Personality of the teacher

In discussing the relationship between teacher personality and pupil change we are limited to the definition of personality provided by the tests used. We must, therefore, compare not only results but also the scales and inventories used to determine personality traits.

Rostker and Rolfe both used the Bernreuter Personality Inventory and the Washburne Social Adjustment Inventory to measure the personality traits of the teacher samples in their studies. Rostker reported no significant relationship between teacher personality and teacher competence. Rolfe found a small negative relationship between competency and scores on the Bernreuter Inventory. However, on another measure of personality, a battery devised by Rolfe himself, a significant positive relationship was reported between teacher personality and competence as defined by pupil change. Gotham failed to find a significant relationship between pupil change and the three personality inventories he used: the Bernreuter, Washburne and Rudisill scales.

---

[17] A. S. Barr, "The Validity of Certain Instruments Employed in the Measurement of Teaching Ability," The Measurement of Teaching Efficiency, Helen Walker, ed. (New York: Macmillan, 1935), pp. 71-141.

An examination of the rating scale used by Rolfe highlights the difficulty encountered in attempting to use the data presented in many of the studies reported here. The teachers studied were rated on personality traits thought to be essential to teaching. On one scale the subjects were rated for their accuracy, health, loyalty, sociability and thrift. Scores were assigned by comparing the teachers studied with other teachers who either excelled or were completely lacking in the traits mentioned above. On another inventory the teacher was scored with regard to the intensity he exhibited on such variables as pleasing, forceful, wholesome, interesting, stimulating, confident and inspiring. The subject was given a score ranging from 0-10, depending upon the number of teachers the scorer could think of who rated higher than the observed teacher on any given variable. The final score was the average of scores given by three raters.

The method of scoring used here and the variables scored make one doubt the validity of the reported results. The completely subjective nature of the scoring procedure makes agreement an impossibility. What appears to be forceful to one observer might well strike a second rater as a particularly offensive display of aggressiveness. The lack of a clear definition of the traits observed and scored coupled with reference to an indeterminate number of people measured by an equally vague and subjective procedure further invalidates the method.

Even the variables measured leave much to be desired. They represent in essence the author's conception of what a "good" teacher should be. This leaves us in the unfortunate position of having almost as many notions of what a "good" teacher is as there are people who think about this problem. Would it not be wiser to ask what happens to a pupil whose teacher is "accurate" than to say that "accuracy" is essential to the good teacher?

One may also question the appropriateness of the variables used. What is the relevance of "thrift," even if there was general agreement among the raters as to exactly what this meant, to the criterion of pupil gain on an achievement test in the social studies?

G. Social attitudes of the teacher

Using scores on the "John Dewey Society Test of the Social Attitudes of Secondary School Teachers" Rostker reported that the social attitude of the teacher seemed to be an important factor in teaching efficiency. Gotham found no relationship between teacher scores on the Wrightstone Scale of Civic Beliefs and pupil change. Rolfe reported a significant correlation between teacher scores on the same instrument and on the Hartman Scale of Social Attitudes of Teachers and pupil gain as measured on achievement tests before and after teaching.

H. Teacher-pupil relationships

At a time when great emphasis is being placed on the need for closer and more understanding personal relationships between teacher and pupil, it is instructive to examine the findings of the following reports. Both of the studies to be mentioned study the "relationship between teacher-pupil relations and pupil change."

La Duke found that pupils of teachers who were judged to be least considerate of others scored highest on four measures of positive pupil change. The pupils were scored for change in (i) gain in factual information (ii) change in interest in the subject area (iii) change in attitude towards the subject matter and (iv) change in appreciation of the material studied.

Brookover reports a similar conclusion. Teachers who were thought by their pupils to be friendly and congenial were the least effective in creating change in achievement test scores. Despite this these teachers were considered better teachers by both students and administrators than those who were rated as "distant and uncongenial."

It is unfortunate that neither of the reports discussed in this section attempted to analyze the specific behaviors of the teachers studied. Were we to know the concrete manifestations of "congeniality" or "considerateness" in actual classroom behavior we would be aided greatly in understanding the results. As it is, the indefiniteness of the description of teacher-pupil relationships necessitates further hypotheses.

Is the inconsiderate and unfriendly teacher more demanding than his opposite? Does he place greater emphasis on the mastery of factual information? Were we given information of this sort it might be possible to understand the findings of the studies reported above. The teacher who stresses factual information is thereby giving his pupils rather clear limits of right and wrong in the classroom situation. The pupils quickly learn the prerequisites of success and order their responses accordingly. This kind of learning is precisely that which is tested by subject matter achievement tests.

The "considerate" teacher may be more concerned about other educational objectives. The accumulation of information may be of only secondary importance. Here too the pupils learn the responses necessary for success. Unfortunately they may not be identical with those necessary for high scores on achievement tests. Indeed they may mitigate against the kind of behavior demanded by tests of this sort.

I. Training of teachers

Much of the current discussion in education centers around the characteristics of teacher-training programs. Not a little has been written and said about the desirability of greater concentration in subject matter areas as compared with increased emphasis on apprenticeship and practice teaching. Dissenting opinions have been just as frequent. Two studies to be reviewed here are of interest in this connection.

Davis reported that students of teachers who had not had specialized training in the subjects which they taught scored higher on subject matter achievement tests than did students of teachers who had received such training. A major exception was found in the results of the test in chemistry. Here the pupils of qualified teachers (a college major or minor in chemistry) far exceeded those of the unqualified teachers.

Hughes[18] also investigated the effects of teacher training on the achievement of pupils. Pupils of physics classes in twenty-nine schools of varying size were tested. The tests used were constructed to cover the material covered in the texts most commonly used in these schools. The pupils were equated on the basis of intelligence. In every test, there were three altogether, the pupils of teachers who had specialized in physics made average scores above the mean scores of all those who took the test.

These results lead to the conclusion that perhaps in certain highly technical areas the training of the teacher in his subject area is a matter of great importance. This does not seem to be the case in other areas. We might conjecture that that teacher who does not have specialized training in the subject which he teaches is learning as well as teaching. The similarity between his position and that of his pupils may engender a greater understanding of the difficulties involved in the assimilation of the material. This leads to a greater awareness of the need for concentration on many aspects of the work at hand. Conversely, the specialist may have set goals which are beyond the capacities of his pupils and may have thus succeeded only in hindering their progress. Further study of this problem seems wholly warranted in the light of the available information. . . .

III

In the preceding section [a number of] studies were reviewed. In each of these studies an attempt was made to evaluate teacher competence and effectiveness by use of the criterion of pupil change. In general the results are contradictory and inconsistent. Such a state of affairs demands an examination of the theoretical and methodological tools employed thus far in this area of research.

---

[18] J. M. Hughes, "A Study of Intelligence and of Training of Teachers' Factors Conditioning Achievement of Pupils," *School Review*, Vol. 33, 1925, pp. 191-302.

Learning is a change in behavior. A teacher is effective when he does things or behaves in ways that engender the learning of skills, understandings, work habits, desirable attitudes and adequate personal adjustment on the part of the pupils or students. Looked at from this point of view neither pupil change nor teacher effectiveness is a unitary concept. Each admits of a number of possibilities. It is then more proper to speak of pupil changes and teacher effectivenesses.

Such a concept of pupil change must employ more than gains or losses on achievement tests as criteria of teacher effectiveness. Change must include all-round pupil growth. The achievement of skills and knowledge is not necessarily a measure of understanding, interpretation, application, appreciation or reasoning. It certainly is not an index of personality growth, social adjustment or other equally important nonintellective functions. One may well question whether the data obtained from achievement tests represent more than apparent achievement at the time learning has taken place or more than the effects of over-learning. The development of instruments to measure the many aspects of change must then be a major focus for future research in this area.

The availability of such instruments, however, does not promise a total answer to the problem. Many of the studies reviewed are based on an implicit assumption. That teacher who is shown to have produced the greatest amount of change is not only judged the most effective but is also considered the best. This is a conclusion which is in no way deducible from the evidence presented.

Let us assume that two aspects of pupil change have been used as the criteria of teacher competence. Pupil change as measured by scores on subject matter achievement tests and pupil change as measured by the ability to apply certain information to new situations and problems have both been gauged. Of the many hypothetical teachers whose pupils have so been tested, some show greater effectiveness in one area than in the other. The pupils of teacher A have scored higher than those of teacher B on the achievement test. The pupils of teacher B, however, show greater gain in their ability to apply principles to new situations and problems. Which of the two is the better teacher? The results of the research clearly do not supply the answer. What they do tell us is that one teacher is more effective in a given area than is another.

A statement concerning the relationship between certain teacher factors and pupil change is in essence a scientific hypothesis. It is a tentative statement concerning the relationship between two events. One of these events, the teacher factor, is an antecedent and the other, pupil change, is a consequent. For evidence as to the validity of such a hypothesis some means are needed for isolating the antecedent condition from other conditions and determining whether in fact this supposed consequent is observed with some consistency to follow or accompany it.

If the research procedure does indeed show that a relationship exists between the two variables then the hypothesis is proven. If our investigation shows that that teacher who is inconsiderate of his pupils is the one who produces the greatest pupil gain on achievement tests we are provided with valuable information concerning the relationship between these two variables. (The degree of generalization possible from the data in the study will depend on the subject matter studied, the grade level of the pupils and so on.) Whatever the general applicability of these results, one thing is not contained in them: we cannot say that the inconsiderate teacher who produces high pupil change on achievement tests is a good teacher or a bad teacher. This last step is extrinsic to the research process.

Effectiveness is a multi-dimensional factor. The study of teacher effectiveness must assume the possibility of different kinds of effectiveness for different kinds of teachers, pupils, programs or situations. Inherent in the idea of effectiveness is a potential variety of "effectiveness." Research can attempt to discover the various kinds of effectiveness. It cannot tell us which is the best or most desirable. This is a judgment which each individual must make according to his own educational goals and values.

No less troublesome than the confusion centering around the ideas of pupil change and teacher competence have been the procedures employed in measuring teacher factors. It appears that the choice of teacher variables to be studied has been made with but little concern for their significance or relevance to the problem at hand. As a result, even when some relationship between the teacher variable and the criterion is discovered we are unimpressed and fail to see its pertinence.

Before attempting to relate variables to one another it is often helpful to determine the classes of variables from which we intend to develop hypotheses. In many of the studies presented in this paper the teacher variables were drawn from among lists of traits, qualities and characteristics thought relevant to effective and competent teaching. While this may be a good starting point, the attempt to relate these variables to pupil change omits a very important step.

In several of the studies described the intelligence of the teacher was used as a variable. This was done in the belief that intelligence may be an important factor in conditioning pupil change. The results reported were contradictory and inconsistent. We suggest that this is so because no reference at all was made to the behavior of the teacher in the classroom.

A trait, characteristic, or quality is a meaningless concept unless it can be anchored to some sort of denotable behavior. We are sometimes at a loss to describe exactly what "intelligence" means. We do, however, know that given a certain "intelligence quotient" a person can do some things and cannot do others.

It follows then, that to describe a teacher as "intelligent" or to report his IQ helps us but little unless we know how this manifests itself in classroom behavior. If all teachers of the same intelligence level acted in the same way then a statement about intelligence could provide evidence of a conclusive nature. We know, however, that this is not so.

The observation of classroom behavior becomes, therefore, a crucial step in the entire process. It is, perhaps, the only valid appraisal of teacher factors that can be made. To return to our example of above, the intelligence of the teacher may or may not be an important factor in the conditioning of pupil change. At best the determination of the teacher's intelligence is only the first step in the process. It may be the antecedent of certain teacher behaviors in the classroom. These behaviors are the crucial point in the conditioning of pupil change. . . .

Because the actual behavior of the teacher in the classroom is such an important factor it is necessary to devise means of observing and recording this behavior. Methods must be used in which only a minimum of inference is allowed. Rather than attempt to score a gross variable such as "dominance" we might be specific and explicit about the acts which make up dominance. A study by Thompson[19] describes this method of observing and recording behavior. The author developed a scale of specific and explicit acts which could be scored with a minimum of subjective judgments. Ascendant behavior, for instance, was described in terms of a number of acts which are concrete examples of that kind of behavior. The observed teacher was scored not on a gross measure of ascendancy but rather on the quantitative display of acts which are the components of ascendant behavior. The use of such a procedure reduces inference to a minimum and allows for replication of the study at a later date and by other investigators.

What we have described above is a three step process. The omission of any one phase of the process makes consistent findings a matter of chance only. Beginning with the identification of antecedent variables resident in the person of the teacher, we trace their relationship to the classroom behavior of the teacher and then attempt to gauge the effects on the pupils. Such a process has within it the possibilities of obviating many of the objections found in the studies reported. While not foolproof it does suggest a potentially wider range of investigation which it is hoped will produce more reliable information in the areas of teacher effectiveness and pupil change.

---

[19] G. Thompson, "The Psychological and Emotional Development of Pre-School Children Under Two Types of Educational Program," Psychological Monographs, Vol. 50, 1940, p. 97.

INTERPRETING THE SELECTIONS

Asch article

1. Explain the statement, "Social man is a somnambulist." Do you agree? For what reasons do you agree or disagree?

2. How might teachers help pupils develop independence of thought and judgment?

3. From your experiences, what are some of the penalties imposed by groups against those who disagree with the consensus of the majority? What are the rewards for independence?

4. In the experiment, how might you explain that unanimity of the majority was a more important influence than the size of the majority?

Sherif and Sherif article

1. Compare the behavior of high-status and low-status members during Stage III. How do you account for the differences? What implications do you see for low-status members in social or national groups?

2. The experimenters conclude that group prejudice and attitudes among groups cannot be explained or altered by considering the needs and motives of the individual. Would you feel this generalization could be extended to other kinds of attitudes? (For example, consider the attitudes evident among children you observe, in dormitory or fraternity relationships, in student body politics, or on the national and international scene.)

3. Look for parallel cases of in-group identification, intergroup hostility, and the tendency to give positive stereotypes to in-group members and negative ones to members of conflicting groups. Take notes on such examples for later class discussion.

4. Look up the reports of the second study (sources given in footnote on page 281) and report additional details to the class.

5. Can you cite examples of school situations in which hostile groups have learned to like each other as a result of working together toward goals important to them all, which could be achieved only by such cooperation? Would you expect this principle to be applicable to hostile racial, political, and national groups? Why or why not?

Bartlett article

1. What conclusions can be drawn from this study? How can the results be applied to the classroom situation?

2. Do you agree with the author's definition of leadership? How would you define leadership?

3. Do the five categories presented here contain the most important qualities of leadership?

4. Give examples of situations in which contribution to group discussion would not constitute leadership on the part of the contributor.

Ackerman article

1. What are the author's findings in his survey of studies of teacher competence and pupil change?

2. What criteria are used to determine "pupil change"?

3. How do you account for the finding that "students of teachers who had not had specialized training in the subjects which they taught scored higher on subject matter achievement tests than did students of teachers who had received such training"?

14 LEARNING AND DISCIPLINE

Explorations in Classroom Management

Jacob S. Kounin, Paul V. Gump, and James J. Ryan, III[1]

The problem of discipline is a major concern to all teachers, new or experienced. Efforts to determine the underlying causes of misbehavior and to treat problem behavior constitute a major interest of the researcher, as well as teachers, parents, and administrators. In this first article, the investigators report their conclusions about teacher-pupil interaction in the classroom setting. Can we predict pupil reaction to various disciplinary techniques? How does the teacher's handling of one child affect others in the group? What is the relationship among disciplinary technique, motivation to learn, and liking for the teacher? These are some of the research questions described below.

The origins of the researches to be summarized here lay in the authors' feeling of inadequacy in trying to help teachers, especially beginning ones, with problems of importance to them. Discipline is one problem frequently verbalized by teachers. Teachers' questions about "what to do when Johnny disturbs" have been shrugged off with impatience, or have been answered with slogans or "principles." Scientific research about the technology and theory of controlling misbehavior in a classroom is either lacking or inadequate.

Consequently, we turned our attention to a study of the practical problem of classroom management, from the standpoint of technology. We wanted to see whether there is not some lawfulness about discipline in classrooms or, on the other hand, whether the variety of variables involved is so great as to preclude the possibility of predicting pupils' reactions from the qualities of disciplinary techniques employed.

Since the teacher must work with groups or, at least, "aggregates" of pupils, we shifted the focus from the effects of disciplinary measures upon an individual child to that of the audience reactions, or the "ripple effects."

---

[1] from **Journal of Teacher Education**, Vol. 12, No. 2, June 1961, pp. 235-246. Reprinted by permission of authors and publisher.

Specifically, how does a teacher's method of handling the misbehavior of one child (henceforth to be referred to as a *desist-technique*) influence *other* children who are audiences to the event but not themselves targets?

The factors to be discussed can be grouped into two major classifications: (1) variables operating at the time of the desist-technique (e.g., the qualities of the desist-technique, the social position of the target) and (2) prevailing variables (e.g., the audience-pupils' intensity of motivation to learn and their liking for the teacher).

I. VARIABLES OPERATING AT THE TIME OF THE DESIST-TECHNIQUE

A. Threatening vs. supportive desist-techniques

In a fashion characteristic of psychologists, we started with an experiment using college students (these are "captive subjects" that do not require administrative clearances and parental approvals). Four classes of students in a college of education were used as subjects. Two classes were taught by a young instructor of educational methods; two classes were taught by an older professor of psychology.

The experiment was conducted as follows:

1. At the second meeting of the class a researcher, posing as a graduate student, obtained questionnaire data on the attitudes of students regarding their instructors, the degree of seriousness of classroom misbehaviors (including "coming late to class") and causes of racial prejudice. The student reports were anonymous.

2. The two instructors of each of the four classes began the third class period with a lecture which gave "his own evidence" that the single most important cause of racial prejudice was repressed hostility toward punitive parents that is displaced upon minority groups.

3. A male student, previously informed about the experiment, arrived late to class—toward the end of the instructor's lecture.

4. The instructor directed either a threatening or a supportive desist-technique at the late-comer. Both desist-techniques stated that coming late interfered with the instructor's presentation and should cease. The supportive desist-technique went on to offer the late-comer help in acquiring the lecture material he had missed. The threatening one stated coldly that "this cannot help but affect my evaluation of you and your grade."

5. The "graduate student" readministered his attitude questionnaire.

Two conclusions emerged from this preliminary experiment:

1. Students who are not themselves targets of a desist-technique *are* affected by it.

2. The *two methods* of handling misbehavior in a classroom *produce* statistically significant *different results*. That is, there is a degree of predictability from some dimensions of desist-techniques to some effects upon audience students.

Threatening desist-techniques, for both instructors, resulted in significantly lowered judgments of the instructors' helpfulness, likeability, freedom from authoritarianism, and fairness; threatening techniques also raised ratings of the amount of classroom tension.

For the young instructor—but not for the professor—differences between the two desist-techniques produced significant changes in ratings of the instructor's competence in his subject-area and in the freedom of the students to communicate with the instructor.

Students in none of the groups changed their attitudes about the seriousness of the deviancy (coming late), and all groups shifted significantly towards the position of the instructors about the causes of racial prejudice.

It would seem, then, that differences in the effects of certain qualities of desist-techniques are more marked in some areas than in others; that the prestige of the emitter of the desist-technique makes some difference; and that some norms of classroom behavior are so well established in colleges as to be rather resistant to change by an instructor's stand on the issue. Influence attempts of instructors that are directly related to course content are not readily changed in relation to a single example of their desist-technique style.

However, another finding may well serve to limit the generalizability of the above results. Although 97 per cent of the students reported that they did *not* perceive that the event was contrived, the students who witnessed either technique were surprised that a college instructor would take time out to correct a student for coming late, even though they rated coming late as a serious misbehavior. Most of them, especially those who witnessed the threatening desist-technique, felt that the behavior was *not* typical for the instructor. There were frequent comments on a post-incident questionnaire such as: "He must have had an argument with his wife," or "He probably got caught in a traffic-jam." This reaction to an unexpected behavior of an instructor, in a sense "excusing it away," may actually function to reduce the changes produced by differences in desist-techniques. From the viewpoint of research methodology and strategy these findings also point to the advisability of using teacher-style variables that are within expectations and that have some ecological prevalence.

B. Punishing vs. reprimanding vs. ignoring

In an experiment with eighth and ninth graders (for whom teachers' use of desist-orders is not unexpected) Ryan, Gump, and Kounin investigated whether qualities of a desist-technique make any difference in audience-pupils' reactions. Volunteer paid subjects were recruited from three metropolitan junior high schools during the summer months to come to a university campus for the purpose of participating in a research studying different methods of teaching. Volunteers were randomly assigned to groups of about twenty-five each where they were asked to consider themselves as being in a regular classroom.

After each group assembled it experienced the following sequence of events: the experimenter introduced the activities of the day; a female teacher (the same for each group) introduced herself to the class; the subjects filled out a questionnaire containing mostly ratings of their first impression of the teacher; the teacher taught a lesson, using slides, about Turkey; a pretrained pupil (also the same person for all groups) misbehaved (got up and sharpened a pencil while the slides were being shown); the teacher issued a desist-technique; the subjects filled out another questionnaire about the activities, the teacher, and the deviancy-event.

Three desist-techniques were used: (1) punitive and intense (walked toward him, saying "Hey you, who do you think you are?" in a firm, irritated voice, put her arm on his shoulders in a gesture of pushing him into his seat, saying, "Now sit down! If you ever do that again, I'll really make trouble for you."); (2) simple reprimand (saying in a matter-of-fact tone: "Don't do that again. Please sit down in your seat now."); and (3) ignoring (indicated awareness of the behavior, but did nothing).

The "take" of the experimental manipulation was evidenced by the existence of a significant difference between all groups in the predicted direction regarding the subjects' ratings of the teacher's meanness, anger, and degree of determination to stop the misbehavior.

Compared to the others, the punitive technique resulted in the subjects' rating the *deviancy* as "most serious," the degree of *interference* with attention to the task as "greatest," the *teacher* as "making too much of an issue" over the event, the experience "most discomforting," and the *teacher* "best able to maintain order in a class of 'tough kids.'"

The simple reprimand produced the highest ratings for teacher fairness and also resulted in the subjects' reporting their paying more attention to the lesson following the event and to the teacher being judged as best able to maintain order in "most classes."

Subjects witnessing "ignoring" as the desist-technique thought the misbehavior most likely would recur, but rated the teacher highest in her degree of liking for pupils.

There were no differences between the groups in subjects' ratings of how much the teacher knew about the subject or how well she could explain it. When equivalent effects are considered (likeability, fairness, felt discomfort) it should be noted that the results of punitiveness in this experiment are quite similar to the results obtained from the threatening desist-technique in the college experiment.

C. Clarity, firmness, and roughness

In one study by Kounin and Gump fifty observers were trained to record critical incidents in Barker and Wright's

These were incidents in which an audience-child was aware of a teacher directing a desist-technique at another child. Twenty-six kindergarten classes were selected to represent the range of socio-economic and ethnic neighborhoods in a large city. All observations were made during the first four days of beginning kindergarten. The observers were instructed to record: (1) what the deviant and the audience-child were doing immediately before the teacher intervened, (2) the full content and manner of the desist-technique and the deviant's immediate reaction, and (3) the behavior of the audience-child during and for two minutes following the desist-technique.

When the resulting 406 incidents were analyzed, it was possible to reliably characterize both the teachers' desist-techniques and the behavior of the audience-children.

The qualities of the desist-technique were rated along dimensions of: (1) clarity (defining the deviancy and stating what to do to stop it); (2) firmness (this included items conveying an "I mean it" quality—walking closer to the deviant, or continuing to look at the deviant until he stopped); and (3) roughness (angry remarks and looks, or punishment).

The reactions of the audience-child were classified as (1) no reaction (no overt behavior which the coder could interpret as related to the desist-technique incident); (2) behavior disruption (overt signs of negative emotionality such as fear, anxiety, and restlessness or a shift away from an originally constructive direction); (3) conformance (stops a deviancy of his own or behaves even better, i.e., sitting more "correctly" himself); (4) nonconformance (engages in a misbehavior of his own); and (5) ambivalence (both conforms and misbehaves).

Statistically significant differences were obtained in the overt behavior of the audience-children as related to the desist-technique used by the teacher. Techniques increasing "clarity" resulted in increased "conformance," but had no effect upon "behavior disruption." Techniques increasing "roughness," on the other hand, had no effect on "conformance or nonconformance," but did increase "behavior disruption." The effects of "firmness" differed from both.

Some of the conclusions of this study are as follows:

1. What teachers *do* makes a difference. There is some lawfulness about the effects of techniques. It was not necessary to obtain personality ratings or IQ tests of the teachers as persons; it was only necessary to find out what they do and how they do it. (Whether teachers with personality factor-x can or cannot *do* things certain ways is another issue.)

2. There are contextual or prevailing variables that also affect how an audience-child will react to an event. Two such contextual variables stand out from the kindergarten study. One refers to the degree of familiarity the pupil has with the teacher and the situation. (Such familiarity, of course, relates to the amount of time one has spent in a particular experience. For example, there were more "no reactions" on the *last* three days than on the first day.) The other contextual variable is the audience-child's orientation at the time of the incident. Techniques high in "firmness," for example, produced increased "conformance," but *only* for audience-children who were themselves oriented toward, or interested in deviancy at the time of the event.

3. "Roughness" is not an increased degree of "firmness." In terms of their effects, it is evident that these are different dimensions. . . .

D. Task-focus vs. approval-focus

Since discipline is centrally related to problems of power and influence and methods of exerting power and influence, another study was undertaken in which Alden[2] dealt with some variables pertaining to these factors. Following French[3], she hypothesized the following bases for teacher power and influence: the coercive role (the teacher as one who can punish); the "legitimate" role (the teacher as an official leader); reward; and pupils' liking for a teacher and teacher expertness.

---

[2] Elizabeth Alden, The Effects on Non-Target Classmates of the Teacher's Use of Expert Power and Liking Power in Controlling Deviant Behavior. Doctor's thesis, Wayne State Univ., 1959. p. 158.

[3] John R. P. French, Jr., "A Formal Theory of Social Power," Psychological Review, May 1956. 63:181-195.

The base of a new teacher's power (specifically, "expertness" and "liking") was manipulated by varying the experimenter's introduction of the teacher. All classes were given a lesson in secret writing. A "high expert" was introduced as knowing all about codes and as having a high position in the military intelligence for coding and decoding secret codes; the "low expert" was introduced not as an expert but simply as a teacher who had agreed to teach the lesson. The "high liking" new teacher was introduced as being very fond of children and the "low liking" as not caring about children one way or another.

The desist-techniques used by the teacher were related to these concepts. Some desist-techniques focused upon liking and teacher approval ("I see a boy playing with some paper clips. I just don't like a boy who plays with things when he should be paying attention."). Other desist-techniques related to expertness and focused upon the task ("I see a boy playing with some paper clips. Because secret writing demands concentration, I don't see how he can learn much about it when he plays with things instead of paying attention.").

Fifth graders were divided randomly into eight classes in which a new teacher taught a lesson (in a pedantic, "academic" manner) about secret writing. In this manner, both "high" and "low expert" and "high" and "low liking" teachers used both approval-focused and task-focused desist-techniques. In each group three desist-orders were directed at three children who had been trained to act the role of misbehaving pupils. In four of the groups, the desist-technique focused upon teacher liking and approval and in four groups the desist-technique focused upon the task.

One of Alden's most impressive findings was the following: in all cases, desist-techniques focusing upon the task were more effective in eliciting desirable student reactions than desist-techniques focusing upon the teacher's approval. (With the exception of scores on a test of how much was learned from the lesson, measurements of results were all based upon differences between measures given before the lesson and measures given after the lesson). For some effects, the superiority of the task-focused desist-techniques held, regardless of whether the introduction of the teacher focused upon her expertness or her liking for children. Thus, in all groups, task-focused desist-techniques increased audience-childrens' ratings of the teacher's skill in handling children and increased their rated degree of interest in secret writing.

For some effects, the use of a task-focused desist-technique combined with the teacher's expertness to effect the pupils' reactions. Thus, when an expert teacher used a task-focused technique it increased the children's judgment of how much she liked pupils and would be inclined to reward pupils; it resulted in the pupils considering the deviances she corrected as being more serious and feeling less inclined to misbehave themselves; and it led to a greater amount of information recalled by the pupils from the lecture itself. The influence of being introduced as having high liking for children made a significant difference on one measurement: a teacher with high liking for children *and* high expertness using task-focused desist-techniques resulted in pupils feeling more inclined toward discussing personal matters with her.

E. The deviant's reaction and prestige

An experiment by Gnagey[4] was directed at two questions: (1) What is the effect of the deviant's reaction to a teacher's desist-technique upon audience-pupils? (Specifically, does whether the deviant submits to or defies the teacher's desist-order make any difference on how audience-children react to the event?) (2) Does the prestige of the deviant among his classmates influence audience-pupils' reactions to a desist-order event?

In this study, four intact classes of fifth graders were shown a science film during which a male classmate "misbehaved" (saying aloud, "Hey, is this film about over?"). This deviant boy then became the target of a desist-order exerted by the teacher. This teacher, who was new to the class, directed the deviant to leave the room and report to the principal. The deviants were pre-selected on the basis of sociometric scores. (Of course, their classmates didn't know that the deviancies were part of an act.) Two male deviants had high attributed influence among their classmates and two had low influence. Two (one high-influence and one low-influence) were trained to behave in a *submissive* manner (saying, "Yes ma'am, I'm sorry," (on leaving the room) and two were trained to react in a *defiant* manner (saying belligerently, "I'll leave the room, but I won't go to the principal's office. The heck with you!").

---

[4] William J. Gnagey, "Effects on Classmates of a Deviant Student's Power and Response to a Teacher-Exerted Control Technique," Journal of Educational Psychology, February 1960, 51:1-9.

Gnagey found that the target's reaction did make a predictable difference in audience-pupils' reactions. Compared to pupils who saw the deviant defy the teacher, pupils who witnessed the deviant submit to the teacher rated the teacher as "more capable of handling kids" and as more expert in showing films; they rated the desist-technique as fairer; and they recalled more facts from the film. The magnitude of the differences between the effects of the two kinds of deviant reactions was greater for boys than for girls and was greater for boys who were audience to a high-influence deviant than boys who were audience to a low-influence deviant.

The Gnagey study also points up one reason for an audience-person to be affected by a desist-order directed at someone else, namely, some sort of linkage with the deviant. In this case it is a sociometric linkage—the linkage of an audience-pupil's motivation to identify with a same-sexed person in a high prestige position. Hence, the finding, for boys only, of a greater effect of a high-influence male's reaction than that of a low-influence male's reaction. Another sort of linkage—to the deviancy event—was illustrated by the previously mentioned kindergarten study. Here, when the audience-child was either deviant himself or was watching the deviancy, he was more likely to react to the desist-technique than if he had no such relationship to the deviancy. In both the Gnagey study and the kindergarten study, then, linkages are shown to be important: linkages to the deviant person, and linkages to the deviancy event.

II. THE INFLUENCE OF PREVAILING VARIABLES

With the exception of the kindergarten study, all the studies previously referred to dealt with contrived conditions and with audience-pupils' reactions to qualities of desist-orders as these were emitted by teachers unknown to them except for that one time. As such, they may be loaded in favor of discovering a ripple effect. For a desist-order may have an effect on a non-target classmate because something in it contains new information for him concerning the teacher or the rules of the setting. This is probably the reason for the finding in the kindergarten study that the degree of clarity of a desist-technique makes a difference in the conforming behavior of an audience-child, especially on the first day of school attendance when the situation is not completely structured. Except for the facts pertaining to learning scores in the Alden and in the Gnagey studies, most of the effects dealt with attitudes and judgments.

Research conducted in other contexts shows that judgments of others are subject to selective perception and perceptual distortion on the basis of the receiver's motivations as well as on the basis of the receiver's relationship to the emitter of behavior (relative prestige, liking for, etc.). Accordingly, it seemed pertinent to investigate audience-pupils' reactions to naturally occurring desist-techniques in actual classrooms with regular teachers. The design employed here was similar to that used in the kindergarten study but with two differences: older children were used as subjects and interviews were utilized in order to study judgments and attitudes. The research sought to determine the influence of variables "within" audience-pupils as such influences affected their reaction to desist-orders. These "within" variables were: (1) the degree of intensity of students' motivation to learn the subject-matter and (2) students' degree of liking for their teacher.

The subjects, randomly selected, included sixty-three boys and sixty-two girls who were just entering high school. They were interviewed between the fourth and tenth day of their attendance at the school and again three months later. One high school was located in a predominantly lower-class neighborhood, one in a lower-middle-class area, and the third in a middle-middle-class neighborhood.

The interview centered around students' descriptions of a most-recent incident when another student engaged in a misbehavior which the teacher did something about. A complete description of the deviance and of the teacher's method and manner of handling it was obtained. The students' open-ended evaluations of the incidents and how they were handled and their reports of how the incidents affected them also were obtained. Finally, students' responses to pre-structured, forced-choice items (relating to the teacher's fairness, his own inclination to behave better or worse afterwards, etc.) were secured. Reports of two such incidents were obtained from each student: one based on the academic class in which he said he was "most determined to learn" and one relating to the class in which he said he was least determined to learn the subject-matter. (Gym, music, and shop were excluded.) For the first interview descriptions of, and reactions to, 250 desist-order incidents involving sixty-four different teachers were obtained. (The second interview included eight fewer subjects.)

The first focus of this study was upon audience-pupils' intensity of motivation to learn as it affected their reactions to desist-orders. Assuming that most high-school teachers concentrate on subject matter, we hypothesized that pupils highly motivated to learn would see desist-orders as facilitating their goals, would be more inclined to perceive desist-orders in terms of task-salient dimensions, would see deviances as more interfering and more serious, would react more favorably (in respect to teachers' intents) to desist-orders, would attribute more power and influence to teachers, and so on.

Ofschus developed codes for various aspects of the reported incidents. He scored the responses of the pupils and compared the reactions of pupils reporting a desist-incident in the class in which they were "highest in determination to learn" with their reactions when reporting a desist-incident in a class in which they were lowest in motivation to learn. He found that audience-pupils' intensity of motivation to learn the subject *did* predict reaction to a desist-event. In high-motivation classes deviancies were rated as more disturbing to the class and more serious, desist-techniques were rated as more fair, students tended to take more of the teacher's side as opposed to that of the deviant, and the students tended to report acting even better themselves after the incident. In low-motivation classes, students tended to report more teacher-punitiveness and anger and to judge more of the teachers as "making too much of an issue" of the incident. In evaluating the desist-technique, more of those in the high-motivation group evaluated it on the basis of its effectiveness in stopping the misbehavior, whereas more in the low-motivation group used teacher-manner (anger, fairness) as a basis for evaluating the incident.

In line with this finding, Osborne coded pupils' responses to a request to describe the teacher. More of those in the high-motivation group talked about task-relevant attributes (competence in explaining, homework properties) while more in the low-motivation group talked about non-task teacher-attributes (fairness, personal qualities, etc.). It would appear, then, that "motivation to learn" may operate to select saliencies in what pupils perceive about teachers and to influence judgments about, and reactions to, teachers' desist-techniques. However, other findings show that such a viewpoint may be over-simplified. When talking about teachers in classes where pupils were highly motivated to learn, only a small number of pupils felt neutral to or disliked the teacher; in the low-motivation classes more than three times as many pupils felt neutral towards or disliked the teacher. Evidently intensity of motivation to learn is highly associated with liking for the teacher. Are these prevailing variables separable? And which gives rise to which?

By comparing the reaction of pupils in classes with both high-motivation and liking for the teacher with the same pupils' reaction in classes with low-motivation and high-liking and separately with classes with low-motivation and low-liking Ryan was able to separate the effects of motivation and liking for the teacher. In general, it was found that "motivation to learn" was associated with degree of attention paid to the task and tendency to behave even better after a desist-event. Judgments about the desist-technique, however, varied with liking for the teacher. Liking for the teacher predicted judgments of fairness and siding with the teacher; disliking the teacher was associated with seeing teacher anger, punitiveness, and overreacting to the deviancy. It appears, then, that knowledge of both motivation to learn and liking for the teacher help predict reactions to a desist-event, but they may relate to different facets: "motivation" predicts reactions regarding the task and behavior conformance; "liking" predicts evaluative judgments regarding the teacher's behavior in the event. . . .

III. WHAT ABOUT LIKING FOR A TEACHER?

While liking for the teacher stands out as an important variable, we must pause to ask what this means. Do the same behaviors that contribute to teachers being liked account for persons in other roles being liked? Or does the teacher role carry its unique properties as far as "being liked" is concerned?

The questionnaire study showed a relationship between ratings of "explains well" and "makes interesting" and pupils' liking for the teacher. The Alden study showed a relationship between task-focus desist-techniques and rated liking for the teacher. When Osborne compared the pupils' descriptions of teachers in "high"- and "low-liked" groups, the differences were about the same as the differences obtained when "high" and "low" motivation groups were compared. When describing "high-liked" teachers, task-property descriptions were predominant, e.g., "explains well," "assigns the right amount of home work," "helps you learn." (Seventy per cent of the pupils mentioned this dimension when talking about "high-liked" teachers.) Only 19 per cent of the pupils mentioned "friendliness" or "meanness" (more of the "low-liked" teachers being included when this non-task dimension was described). In contrast, in a study by Polansky and Kounin in which adults and college students were asked to describe a professional helper (physician, social worker, college counselor) they had just seen for the first time, the majority talked about "friendliness," "helpfulness." "Understanding" was referred to by 49 per cent of the clients when talking about professional helpers, compared to 7 per cent of the high-school students who used this term when describing teachers.

In a study of the ripple effect in a camp milieu Gump and Kounin also asked campers to describe camp counselors. The most frequently used dimension was that which we called "gratuitous giver": 63 per cent of the campers (ranging from seven to thirteen years of age) described their counselor with statements illustrated by "gives us candy" and the like. Only 2.3 per cent of the campers used terms that might be equivalent to "explaining well," e.g., "taught us how to play ball better." It also was found that concepts of misbehavior (obtained from the question, "What's the worst thing to do?" and "Why is that so bad?") also differed, depending upon whether the camper was talking about camp, home, or school milieus. The role of the central adult (parent, teacher, counselor) as a sufferer from childrens' misbehaviors and as a retributor also differed as between milieus.

All the above leads us to believe that the salient dimensions used to analyze adult-child relationships probably differ for parents, camp counselors, teachers, and other adult-child role figures. Equivalences may be theoretically possible at a higher level of abstraction, but concrete techniques cannot be directly extrapolated from one adult-child role to another.

It would seem, further, that studies of the attributes of teachers as such, whether obtained from projective and inventory-type measures or from boy-scout-type lists of characteristics (trustworthy, loyal, helpful, friendly) are inadequate to the task of analyzing what constitutes teachership. We need to know what teachers *do* that makes a difference for the learning and behavior of *pupils* in *classrooms*. Not only do we need to know what teachers do to manage misbehavior, but we must know what they *do* to evolve and sustain motivation to learn and to becoming "liked." What *are* the really significant dimensions of what we call teaching? (We are inclined to believe that the "desist-style" dimension here discussed is not as important as some others.)

What is more, studies are needed to better inform us about what constitutes the nature of the classroom as a unique setting distinct from other kinds of settings for children's groups. For, television or not, the locus of necessity of educational practice and the point of application of learning theory or group dynamics theory or other psychological theories is the classroom with a teacher in charge of a group of children or adolescents. And what we know of teachers or students, separately or together, must be relevant to this basic context if it is to be of benefit to those doing the job.

Researchers should get into the classrooms; and teachers and administrators should let them in.

Student Attitudes Toward Child Behavior Problems

Robert M. Porter[5]

It is to be hoped, of course, that as a prospective teacher moves through college toward the goal of teaching, his ideas about children will become more firmly based on knowledge and experience. What are the attitudes of college freshmen toward pupil behavior problems? How do these change by their senior year? Do prospective teachers move toward or away from a mental hygiene approach to discipline? Some interesting assessments of student attitudes are described in the following article.

The look-for-the-cause approach is accepted by mental hygienists as the method of preference in dealing with child behavior problems. That teacher attitudes toward their pupils' behavior have been moving closer to a mental hygiene point of view during the past thirty years has been chronicled by such researchers as Ellis and Miller, Mitchell, Stouffer, Schrupp and Gjerde, and Hunter. Undoubtedly much of this improvement can be attributed to Wickman's study of 1928 which had shown that teachers and clinical psycholgists were some distance apart in rating the seriousness of various kinds of behavior. The former stressed overt, objective behavior while the latter emphasized more subjective manifestations of maladjustment.

Wickman's work touched off numerous subsequent investigations. Another impetus has arisen from the increasing emphasis that teacher-preparing institutions have given to child growth and development and educational psychology courses. Sparks found that teachers with training beyond the bachelor's degree more closely approached the mental hygienists' position than did those with less training. The purpose of the present study was two-fold: (a) to ascertain how undergraduate students in teacher education felt that certain child behavior problems should be handled, and (b) to ascertain the extent of improvement in student attitudes as they progressed through their four years of college. At what point are these students when the college gets them and how much growth toward clinicians' attitudes occurs in their subsequent undergraduate career?

---

[5] from Journal of Educational Research, Vol. 52, No. 9, May 1959, pp. 349-352. Reprinted by permission of the publisher.

PROCEDURE

In an effort to obtain some answers to these questions an investigation was undertaken at the State University Teachers College at Oneonta, New York during the fall of 1956. Data were obtained from about sixty students in each of the four classes: freshman, sophomore, junior and senior. This study was widened to include sixty-four seniors of the local high school and sixty in-service teachers who were members of extension courses being given by the College in Albany, New York.

The data collection instrument was a test devised by Celia B. Stendler which contained twenty-five response statements describing various behavior patterns in children. Stendler had used the test to examine the problem of teacher insight into pupil behavior from a different angle than had Wickman, et al. She attempted to discover how teachers thought certain kinds of behavior should be dealt with. She queried one hundred fifty-seven elementary teachers in the midwest. Persons being questioned were asked to complete the statement by describing what they considered to be the best way of treating the particular problem. They were not required to sign their names. The test was as follows:

Problems of Child Behavior

Here are some statements about children which are not complete. Each statement describes a particular kind of behavior problem. For example, the first statement says, "I think the child who never finishes on time should—" You are to finish the statement by describing what you think would be the best way of treating his particular problem.

(1) I think the child who never finishes on time should

(2) I think the child who continually fights with other children should

(3) I think the child who continually steals should

(4) I think the child who bites his fingernails should

(5) I think the child who daydreams most of the time should

(6) I think the child who relies on the teacher too much should

(7) I think the child who does his work over and over until it is just right should

(8) I think the child who never works up to his capacity should

(9) I think the child who never pays attention should

(10) I think the child who is always late should

(11) I think the child who always lies should

(12) I think the child who always talks back to the teacher should

(13) I think the child who is easily discouraged should

(14) I think the child who continually shows off in class should

(15) I think the child who always feels everyone is picking on him should

(16) I think the child who loses his temper when he doesn't get his way should

(17) I think the child who uses vulgar language should

(18) I think the child who tries to cheat on exams should

(19) I think the child who is always unhappy and moody should

(20) I think the child who continually plays truant should

(21) I think the child who is a bully should

(22) I think the child who wastes school materials should

(23) I think the child who continually disobeys should

(24) I think the child who is disliked by other children should

(25) I think the child who is timid and shy should

Answers to the test were categorized by Stendler under six different categories. They were as follows:

1. Take punitive measures.
2. Talk to him. Moralize. Be shown the error of his ways.
3. Send him to a doctor.
4. Adjust the work. This included increasing or decreasing the work, or recommending any kind of project.
5. Praise or encourage him.
6. Study him to find the cause of behavior and plan a course of action accordingly.

FINDINGS

The percentage of the total responses of each of the six groups that fell in each category is shown in Table I. The figures obtained by Stendler are given for comparative purposes. It is readily apparent that the technique most used by the high school seniors was Category 1, Take Punitive Measures. Over a third of them elected this category. Resort to this method was decreasingly elected by the four college classes, progressing from freshmen to seniors.

About one fifth of the freshmen, but only about one ninth of the seniors, chose to take punitive measures to deal with behavior problems.

The teachers in the field reversed this trend slightly, however. This may have been due to the fact that many of them, now middle-aged, did their teacher-training work before the causal approach was stressed as much as it is today. Another explanation may well be that once away from the classroom of theory and into the classroom of reality they found that a punitive measure is the easiest "solution" to an uprising in the ranks.

For what behavior problems was Category 1 more frequently chosen than any other category? More high school seniors chose it than any other technique for fifteen of the twenty-five problems on the test. These figures dropped to five for college freshmen and six for sophomores. Behaviors for which both groups were very frequently using it included being always late, talking back, showing off, bullying, and disobeying. Juniors preferred it for only two problems—the show-off and the disobedient. There were no instances in which college seniors preferred it to any other technique. In-service teachers, however, chose it very frequently to deal with the child who doesn't pay attention, is always late, talks back, loses his temper, wastes materials, or disobeys. The Stendler teachers would use it especially for tardiness, bullying, and disobedience.

TABLE I Percentage of Responses for Six Categories in Twenty-five Items Describing Pupil Behavior Made by Six Groups Tested

Number	1 Take Punitive Measures	2 Talk to the Child	3 Send Him to a Doctor	4 Adjust the Work	5 Praise or Encourage	6 Study Him to Find Cause of Behavior	No Answer
64 High School Seniors	38.4	21.3	.35	18.5	10.7	5.9	4.4
60 College Freshmen	22.01	32.1	.34	16.8	14.1	10.6	4.3
61 College Sophomores	20.2	25.6	.46	22.7	12.5	12.3	6.2
60 College Juniors	13.5	28.1	.47	20.3	14.5	17.6	5.6
63 College Seniors	10.7	25.3	.59	25.0	14.8	19.2	4.6
60 In-Service Teachers	17.3	19.9	1.8	23.7	14.9	17.9	4.6
157 Stendler Teachers	13.9	33.4	2.7	22.5	9.1	14.6	3.8

These are overt behaviors disruptive of class routine and management, and the Wickman and subsequent, e.g., Stouffer, studies indicate that teachers view these as more serious behavior problems than do clinicians. . . . Of interest would be a follow-up study to ascertain the views of the same college seniors tested after they have been employed in the classroom for a couple of years.

The high schoolers would do considerably less "talking to" than punishing. Category 2, Talk to the Child, was, however, the technique most chosen by all four college classes. It was the preferred technique for all groups except the high schoolers (who chose punishment) to deal with cheating, vulgar language, temper tantrums, or wasting of materials.

Very few persons in any group tested (less than two per cent) chose Category 3, Send the Child to a Doctor. It is gratifying to note that students and teachers alike apparently realize that attributing behavior problems to physical disorders very often fails to hit the mark. Stendler reported that only for fingernail biting would more teachers use this category than some other techniques. Of the groups tested in this study, the high school seniors would deal with this problem by punishment. The college classes preferred Talking to the Child or Adjusting the Work. The in-service teachers would Look for the Cause.

Category 4, Adjust the Work, would be used by a majority of the persons in each group tested in this study, and by the Stendler group, to handle the child who daydreams, relies on the teacher too much, or is timid and shy. These are not problems disrupting classroom routine; they involve personality maladjustment. For them, Category 4 was turned to by all groups. There was a slight tendency toward increased use of this technique the higher the group on the educational ladder.

Only about 11 per cent of the high school seniors turned to Category 5, Praise or Encourage, to handle the problems presented on the test. This figure rose to about 14 per cent for the college classes and the in-service teachers. Stendler had reported that about 9 per cent of her group had recourse to this method. All of the groups in the present study, and the Stendler group would use this category for the child who is easily discouraged—an obvious choice, of course. The younger groups would use it for the child who does his work over and over until it is just right. It appears significant that college seniors, and the in-service teacher groups used in this and the Stendler study, would Talk to the Child and point out the error of his ways (Category 2). With added training and experience, it seems, comes a realization that this behavior is not as praiseworthy as it at first appears.

Mental hygienists feel that Category 6, Study the Child to Find the Cause of Behavior, is the best answer for all twenty-five problems, and in the answers given by the various groups tested, recourse to this technique increased steadily from the high schoolers (nearly six per cent) to the college seniors (nearly twenty per cent). (See Table I.) One may reasonably assume, therefore, that instruction in the college investigated emphasized an understanding of causal factors of behavior and that the instruction had some effect.

For what behavior problems was Category 6, Study to Find the Cause, chosen more than was any other technique? The high school seniors preferred it for one item, the child who is disliked by other children. There were no problems for which the majority of college freshmen would study the cause. College sophomores, juniors, seniors, and the in-service teachers would have very frequent recourse to this method to handle problems involving children who fight, steal, are moody and unhappy, play truant, and/or are disliked. The teachers in the Stendler study felt that stealing, truancy and tardiness especially would call for handling by this category.

SUMMARY

This study endeavored to measure the growth in attitudes toward handling certain child behavior problems as students progressed through a representative teacher-preparing institution. Data were collected from a sampling of high school seniors, the four classes of a teachers college, and teachers taking in-service courses with that college.

Findings seemed to indicate that:

1. The technique most selected by high school seniors to handle the behavior problems presented was punishment. All four college classes favored talking to the child, as did the Stendler teachers. The in-service teachers of the current study favored adjusting the work.
2. There was a sharp drop in the election of the use of punishment from high school seniors to college seniors.
3. Punishment was especially chosen to deal with overt behaviors which disrupt the classroom.
4. Very seldom would any of the groups tested seek to handle a behavior problem by sending the child to a doctor.
5. There was a tendency to handle problems of a more subjective nature, involving perhaps some personality maladjustment, by adjusting the work. The older the group, the more this method was chosen.
6. The older groups recognized that it was not praiseworthy for the child to do his work over and over to seek perfection.
7. There was a decided tendency for older groups to move more and more toward the mental hygienist view that the best technique for behavior problems is to seek the cause.
8. The general consensus of the six groups tested was that the most serious behavior problems involved unhappiness and moodiness, stealing, being disliked by others, fighting, and truancy.

Further study could well be made to follow the same college seniors as they go out into their first jobs, and to attempt to see just how much carry-over there is of their college-inculcated attitudes, and just how much these attitudes are bent when they meet the reality of the outside world.

Education and Psychotherapy

Percival M. Symonds[6]

Teaching has moved much closer to the "mental hygiene" point of view since the well-known Wickman study of 1928 showed that teachers and psychologists were quite far apart in their attitudes toward pupil behavior. However, the mental hygiene point of view still has not yet won a clear victory. Problem behavior is often regarded as disruptive behavior, and symptoms, rather than underlying causes, are often treated. The following article analyzes the similarities and differences between teachers and therapists, outlines the roles of each, and discusses the insights of therapy that can aid teachers in understanding and helping children.

. . . At the beginning of the movement toward psychoanalytic education and the introduction of mental hygiene principles into education the aims and methods of education and psychotherapy were far apart. Psychotherapy was concerned with bringing mentally disturbed persons to normality; while education was concerned with imparting knowledge, helping in the formation of skill, and in general in assisting boys and girls to develop along lines that would help them to fit as responsible members into the society in which they were growing up. With the passage of years the function of psychotherapy is conceived to be that of assisting in belated personality development while education, too, has accepted greater responsibility for the all-round development of the individual instead of for isolated segments of his personality. Methods of the two disciplines, too, have become more and more alike until some writers suggest that they are almost identical. . . .

SIMILARITY BETWEEN PSYCHOTHERAPY AND EDUCATION

First let us review some of the points of similarity between psychotherapy and education.

1.–*Both teachers and therapists should treat children as individuals with potentialities for progressively taking over direction of themselves.* This principle certainly has not always been followed by teachers in practice. Many teachers, sensing so strongly the immaturity of children, do not have faith in their potentialities to take responsibility for themselves and hence exercise close restraint and control. And it must be admitted that it becomes difficult, if not impossible, to see the individual when he is one child in a class of forty. But this principle is being accepted more and more by progressive teachers for whom the conditions of teaching permit giving children greater responsibility.

2.–*Both teachers and counselors should be warm, friendly, outgoing, pleasant and kindly.* The exact attitude and relationship here must be defined carefully. It does not mean effusiveness, a bubbling-over approach, lavishing affection or sympathy. It does not consist of giving praise, or flattery. It exercises itself in such qualities as genuine interest, sensitivity to the feelings of others, willingness to listen to the other person, and being unhurried, sincere and genuine. It may mean little more than the friendly nod, the cheery "good-morning" or the sympathetic smile. . . .

3.–*Both teachers and therapists are counseled to accept the child as he is—no matter*

---

[6] from Journal of Educational Psychology, Jan. 1949, 10:5-20. Reprinted by permission of author and publisher.

how stupid, lazy, dirty, resistive, or disorderly. One of the cornerstones of modern psychotherapy is the acceptance of the patient by the therapist. Accepting means more than tolerating. It means on the one hand avoiding negative feelings toward a child of dislike, contempt or disgust, and withholding criticism, censure, or blame; but it also means that there must be some genuine liking as might be shown when the teacher is glad when a boy comes to school and is sorry when he is absent. For the teacher this means accepting potentiality and promise in a child as well as the skills and habits actually present. A teacher may like a boy because he sees that he has potentialities for growth. Children are highly sensitive to minor indications of lack of interest, boredom, preoccupation with other matters and other attitudes of unconcern which the therapist or teacher may show.

Should the teacher accept negative behavior? Should the teacher accept breaking of the rules, destructiveness, hostile behavior? He may accept them no more than the therapist. A teacher is expected, as we have seen, to express what he as a person and as a representative of society does and does not stand for. But it is possible at the same time to accept the person who has broken these rules. It is possible to accept the person while at the same time rejecting what the person does. Many a child feels sure that his mother or teacher really loves him when the parent or teacher takes time to chide or reprimand him. A teacher may be disappointed in what a child accomplishes, to be sure, but faith and belief in his potentialities still persist. And both therapist and teacher must show tolerance, a willingness to overlook and be forgiving, with faith in the final triumph and emergence of the forces of good.

Acceptance, *per se,* does not mean approval, or disapproval; that is the valuation of behavior. But here is where teaching and therapy part company. Therapy, since it is not interested in directing change, does not evaluate.[7] Education, since it is interested in directing change, adds to mere acceptance valuation through praise and criticism.

Should the teacher accept negative feelings? Yes, temporarily as a therapist for the purpose of helping the child to accept himself and eventually to reduce the need for negative feelings. But since teachers cannot work with negative feelings as teachers, these feelings must be discouraged so that positive feelings can operate in their place. Teachers may use the therapeutic method of dissipating negative feelings by recognizing them, sensing from whence they spring and recognizing the justification for them, and also helping the child to recognize them, but they can also be dissipated by disregarding them, or jollying and "kidding" a person along about them. . . .

4.—*Teachers and therapists may also be expected to be permissive—but to a degree only.* Teachers and therapists not only should accept the child in spite of his past behavior, but give the child permission to be himself, in feeling particularly, in behavior as far as possible. Both teachers and therapists believe in the practice of restraining dangerous and destructive behavior, and both believe in giving freedom for the expression of feeling. But the teacher is not merely a permissive person; he also positively encourages, stimulates and directs. A good teacher finds a happy balance between being permissive on the one hand, and using his influence in directing, acting, thinking and feeling on the other.

5.—*Both teachers and therapists have a responsibility to understand the child.* A therapist is expected to be particularly sensitive to unconscious motives and the mechanisms by which they are expressed. A teacher is expected to be particularly sensitive to conscious motives and interests, but the teacher who is also sensitive to unconscious motives may be better able to tolerate the bad in a child and hence to find opportunity for the release of negative feelings while at the same time he may appreciate untapped possibilities for constructive growth and be more courageous and patient in encouraging their expression.

6.—*Both teachers and therapists should be sensitive to feelings expressed by the child and should help the child to be aware of them.* This is one of the therapist's principal tasks, but only one of many angles of the teacher's task. Many teachers, however, would not dare to let pupils express their feelings openly and freely —to do so would be too great a threat to the teacher's prestige and authority. But children should learn at school not only about the world around them, but also about the world within, and this *in*sight can be best acquired by permitting pupils to express their feelings freely and then directing their attention toward them.

---

[7] [In this article Symonds uses "therapy" to mean client-centered, nondirective therapy. There are other types of therapy in which the therapist may be highly directive.]

DIFFERENCES BETWEEN PSYCHOTHERAPY AND EDUCATION

Having now pointed out six points which education and psychotherapy have in common, let us review the ways in which they differ.

1.—*A teacher is principally concerned with the world of reality and his task is to help children to become effective in the real world. A therapist, on the other hand,* according to Rogers, *gives his attention primarily to the feelings expressed by a child* and neglects or overlooks as of less importance the content of what a child says. Instead of helping a child to adjust to the real world, a therapist helps a child to accept himself with all his immaturity, limitations and shortcomings. This distinction, however, need not be too sharply drawn. The teacher, too, must give attention to feelings when feelings interfere with attention to the task at hand. The wise teacher selects some activities such as dramatics, painting and drawing, music, story-telling or rhythms to promote and encourage the release of feelings. Constructive activities in shop and laboratory may provide outlets for aggressive tendencies. When a teacher, however, has to pause to pay attention to the feelings which his pupils are expressing he is, strictly speaking, stepping out of his rôle as a teacher and temporarily functioning as a therapist. If the child responds readily to recognition of his feelings and returns quickly to the task at hand instead of having further to defend himself, the teacher can well afford this brief excursion into the therapeutic realm. If, on the other hand, the child is slow to respond and needs to have his attention called repeatedly to the feelings he is expressing, or if he lacks control even after he has given his attention to them, then the teacher is stepping out of his rôle as teacher for therapuetic ends. If the child is his only pupil then that may be the best use of his services, but if he is the teacher of a class then this one child may be usurping time which the teacher should be devoting to the educational interests of other children who are ready to use it.

2.—*A teacher feels and expresses love, but avoids hate; a therapist does not express either love or hate.* A teacher enters himself into the relationship emotionally—he gives of himself to his pupils. He cares for them, devotes himself to their needs and interests and uses his energies on their behalf. A teacher, to be successful, must like his pupils—like them well enough to work for them as well as for himself. He gives of himself freely and not only on condition that the child meet his expectations. It is in response to these expressions of love that a child learns; he learns in order to retain this love and to avoid anxiety lest love be withdrawn. The teacher cannot afford to hate, however, for hate stirs up antagonistic emotions in the child, which interfere with learning.

The therapist, on the other hand, neither loves nor hates but avoids becoming emotionally involved in the relationship. Hamilton says of this: "The 'love' of the therapist consists of warmth, concern, therapeutic understanding, interest in helping the person to get well. . . . The therapist does not give love in the ordinary sense, just as he must not disapprove of or dislike what the client is, says, or does."[8]. . .

3.—*The teacher expresses himself boldly and readily.* He not only imparts information and guides in the formation of skill, but also expresses his stand on issues. *The teacher is a dynamic, vigorous, outgoing individual.* Society expects a teacher to direct and lead the way. In controversial issues a teacher may be expected to present fairly both sides and in any case he ought to present the bases and arguments for each point of view. But a *therapist is expected to be a more passive individual. . . .* His principal task is to understand the client, to be sensitive to his feelings and hence to help the client to accept and become more tolerant of his own feelings and tendencies to action. . . .

---

[8] Gordon Hamilton, Psychotherapy in Child Guidance (New York: Columbia Univ., 1947), p. 126.

4.—*The teacher uses praise and blame, reward and punishment to aid in the education process.* Teachers that I have observed who have been most successful in their work have been extravagantly lavish with praise. The praise has been given warmly and with enthusiasm; but it has been genuine praise for acts or work that has been deemed praiseworthy and children have been sensitive to its sincerity. Children respond to praise with increased effort and the use of praise helps to establish the positive relationship mentioned above.

The teacher also uses censure or blame judiciously. Mild criticism probably meets Estes' criterion of a punishment that is mild and which actually influences unlearning. A severe punishment inhibits behavior and hence removes an act from the influence of either positive or negative learning. Mild criticism or blame may permit an act to be repeated without satisfaction or reward or reinforcement and, hence, satisfies the conditions for experimental extinction and unlearning. The wise teacher, however, does not criticize or blame without making sure that a positive love relationship has already been established, for it is only on the basis of a positive relationship that positive learning can take place to supplement the reaction that is being extinguished.

The therapist uses neither praise nor blame, reward nor punishment. The task of the therapist is to encourage response, to enable the subject to accept himself as he is, to reduce the necessity for continued use of defensive measures, to avoid encouraging a person to over-estimate himself, and to help a person to become self-directing. Praise certainly encourages a subject to follow the suggestion of the would-be therapist and may lead to over self-valuation. Criticism would force the continued and increased use of defensive measures and would defeat tendencies toward self-acceptance.

5.—*The teacher stimulates, encourages, directs, guides.* This is the teacher's recognized and established function. He has been employed by society to act as a leader and a guide. This does not mean that he need operate autocratically, or with use of coercion or force. His influence rather can be that of a kindly older person who can show the way that children want to go. And as he suggests or advises it is always with the child's interests in mind. As Rank[9] points out, "The child will instinctively grasp the ideologies offered to him, because he needs them as props for the unfolding and justification of his individual ego." So the teacher uses influence without undue pressure. By stating his position and his likes and dislikes vigorously, the child who already loves, respects and trusts his teacher will want to go in the direction pointed out.

The therapist, on the other hand, consistently avoids using any influence in the form of suggestion, advice or encouragement. The therapist's task is to strengthen the ego of the child, to make the child more independent. . . .

The teacher, too, is interested in helping children become more mature. Consequently he provides considerable genuine freedom, but the teacher is always there to offer suggestions or support, recognizing that the immature child may need guidance or support for his own emotional security.

These principles regarding the neutrality of the therapist are sometimes violated in the interest of the reality of the situation. When a child threatens violence and harm or damage either to persons (including the therapist himself) or to property, then the therapist may exert a restraining influence. A distinction is made between verbal (or fantasy) expression and motor expression. Motor expression can become so violent and disorganized that it loses any growth value it might have, whereas verbal or fantasy expression would seem always to be closer to the influence of judgment and reason. It would seem then that there are occasions when the therapist must broaden his rôle and act more like a teacher until the child regains his emotional equilibrium. On the other hand, these controls must not be placed too high for there is sometimes therapeutic value in the cathartics of strong emotional release. . . .

---

[9] Otto Rank, Modern Education (New York: Knopf, 1932), p. 227.

6.—*A teacher should on occasion be firm.* He should take a stand and express himself with conviction with regard to many issues and stick to his stand with consistency. Firmness, however, need not involve the use of force and should not be confused with punishment. It would be of little use for a teacher to exert firmness if he had not already shown love and in turn won love from his pupils. If a positive relationship has been established, if pupils are sensitive and responsive to his expressions of approval and disapproval, then force is unnecessary, for the relationship will be sufficient to be effective.

A therapist, however, need not in general be firm, for he is actually not expected to take a stand on any issue, but to be neutral, accepting and permissive. However, to the extent that a therapist feels that he must enforce limitations in the subject's behavior in the interests of reality to prevent harm or damage to persons or to property, then a show of firmness would be appropriate. But the setting of limitations is not part of the therapeutic process—it sets conditions in the world of reality which permit therapy to take place. Setting limitations in therapy helps a child to control himself and reduces guilt. In setting practical limitations there is no intention on the one hand to restrict the expression of feeling or, on the other to coerce the child to follow a line of action which must come about eventually from his own inner choice and decision.

7.—*A teacher should have a program and be directive. A therapist should be non-directive.* This principle is by no means universally accepted either by all educators or by all therapists. While it is generally believed that schools should have courses of study and that some, if not much, learning should be laid out in advance, there are advocates of the child-centered school in which children not only determine or have a hand in determining day-to-day goals but also the larger objectives. Many teachers believe that self-determination of goals is an essential ingredient in the educational process. Even the most extreme of the child-centered advocates, however, would expect the teacher to exercise some leadership or at least be available for friendly counsel in the process. But whether one gives the teacher or the children the principal responsibility in deciding upon the program, a program there must be so that at the end of the year one can point to tangible results in the form of growth and learning.

Whether the therapist should or should not be directive has been the focus of another controversy. There are some like Thorne who believe that there are occasions when the therapist, like any physician, must step in with positive suggestions to wield his influence through persuasion if necessary to help a person work out better adjustments. The weight of opinion, however, follows Rogers that such methods are palliative only and that real personality change takes place when the therapist by his non-direction forces the client to take responsibility for himself.

It is clear that the rôles sometimes become confused on this issue. There are some therapists who simply do not trust the subject to have the intelligence, judgment and control to select the reasonable way, and feel that they must exercise the teacher's function of guiding and directing. And there are some teachers who have such a profound belief in the child's capacity to learn through the opportunity of making his own decisions that they adopt the therapists' non-directive rôle. But somewhere, sometime children must learn the meaning of honesty, helpfulness, good sportsmanship, self-control, generosity and the like, and how will they ever learn these character traits unless someone in the rôle of the parent or teacher leads the way and directs them?

There are other less obvious and more subtle differences between the teacher and therapist.

8.—*The teacher works only through the positive forces in the child and the good teacher calls out only these positive forces.* Everything the good teacher does throughout the school day is designed to call forth positive constructive attitudes and behavior from pupils. As Isaacs [10] says, the teacher "must be a 'good' parent to the child, even though she be a strict one. . . . I do not mean that educators have to be inhumanly perfect before they can educate at all.

---

[10] Susan Isaacs, Social Development in Young Children (New York: Harcourt Brace, 1933), p. 410.

Children readily forgive occasional outbursts of anger and other real faults in an adult whose general attitude is reliable and friendly and understanding. . . . But she must not, by her real qualities, attract to herself the negative explosive reactions of hatred and aggression."

It is not the teacher's task to have to deal with a child's hostile attitudes as such, for education cannot take place in an atmosphere of defiance, mistrust, or rebellion. Teachers are expected to put a child's aggression to work in constructive channels, and the successful teacher is able to harness children's aggressive energies to the activities and tasks at hand. When the child displays hostility in the classroom through no fault of the teacher, then the teacher must temporarily step out of his rôle of teacher to act as therapist possibly by verbalizing the child's feelings and attitude, thus bringing them to his attention and helping the child thus to reduce the strength of his feelings and contol his attitudes. If simple measures do not work then the child is in need of more thoroughgoing therapy for he is at the moment uneducable. Punishment is seldom called for in the control and reduction of hostility, for it only represses feeling, inhibits behavior, and does not get at the root of the difficulty.

The therapist, on the other hand, must be ready to deal with negative attitudes of the child. Not that the therapist stimulates negative attitudes, but he must be ready to accept negative attitudes that will inevitably arise in the child who needs therapy. The therapist has to be able to tolerate the child's aggression without adopting punitive attitudes of counter-aggression.

9.—The next point is one in which we are in a state of transition in our thinking. It is obvious that the teacher's main concern is with conscious processes as they express themselves openly in interests and activities. He is also concerned with motivation in terms of conscious wishes and desires. There is a question, however, of the extent to which the teacher needs to be aware of unconscious processes and motivation. Isaacs says the unconscious lies outside the teacher's sphere. "The teacher has no direct concern in her work as an educator with the fact that the child's love and wish to make may be covering his fear and hate and wish to destroy. That is the analyst's concern, not the teacher's. . . . Unconscious wishes as such are not, and cannot be within the competence (of the teacher)—any more than the teaching and training of the child in skilful manipulation or understanding of the external world is within the competence of the analyst. . . . The educator [teacher] can only make use of unconscious trends in so far as they are available within the field of the conscious life, and in the form in which they are available in conscious life."[11] Is it not possible that Isaacs has gone too far in this point of view? Might not the teacher of the "goody-goody" child who harbors unconscious hostility be more successful as a teacher if he knows of the child's unconscious hostility and provides occasions for the expression of it? Might not the teacher of a delinquent be helped if he knew of the child's inner conflicts and struggles between the good and the bad, his potentialities for achievement so that the teacher could lend his strength to help the child choose the more socially approved ways and exercise control against the socially unapproved? Granted, however, that the teacher should use his knowledge of unconscious forces to assist him in the selection of educational devices and not in direct interpretation of them to the child.

There are some who believe that teachers are not able to understand and make use of unconscious material because they themselves have not been analyzed, and because the point of view in terms of unconscious motivation is too far removed from a common sense interpretation. This dogma has long gone unchallenged. There is reason to believe that these points of view can and are being assimilated by teachers in courses in psychology emphasizing the dynamic point of view and by projects such as are reported in the book, *Helping Teachers Understand Children,* which makes a start at interpretation on a very elementary basis. . . .

THERAPIST VS. TEACHER

Whether the same individual can fulfill the dual capacity of therapist and teacher has been discussed by both Isaacs and Rogers and both have come to the conclusion that this is not possible. Isaacs says:[12] "Deep and essential contrasts having been drawn between the work of the educator and the analyst, it should be clear that no one person can combine the two functions to the same child, and that, moreover, it will be an unwise thing for a teacher or a mother or a person in a relationship of authority to a child to attempt to undertake the work of an analyst, even by ever so little. The admixture of education and analysis tends to ruin both, and can do little for the child but confuse and bewilder him, and increase his conflict."

---

[11] *Ibid.,* p. 411.

Rogers at one time referred to "therapeutic attitudes on the part of the teacher," but in his later book[13] comes out positively and says: "It seems to the writer that the counselor cannot maintain a counseling relationship with the client and at the same time have authority over him. Therapy and authority cannot be coexistent in the same relationship. . . . There cannot be an atmosphere of complete permissiveness when the relationship is authoritative." He proposes three partial solutions to the problem, no one of them completely satisfactory. In one the worker acts as an impartial intermediary between the law and the patient, offering his services to do what he can in the situation, but leaving decision for responsibility to the child. This is the attitude frequently adopted by the social caseworker and the probation officer. A second solution is for the individual to operate in different capacities at different times as when a teacher functions as a teacher during school hours, but as a counselor and therapist out of or after school. The third solution is to separate the teaching and counseling functions in schools and colleges by assigning them to different personnel.

Goodwin Watson sees possibilities in the teacher performing therapeutic functions. He says: "Sometimes it is possible to refer children needing special help to a psychological counselor, visiting teacher, or a psychiatric clinic. There are several reasons, however, why this is not the most satisfactory solution. One such reason is that there are not enough competent professional counselors to take care of more than a small fraction of the youngsters who need help. A second consideration is that the teacher has a background of experience with the pupil which might prove helpful. Then, too, pupils already have a relationship with the teacher—if this can be made therapeutically effective. The best procedure, in many cases, is that in which the teacher undertakes treatment of the problem pupil, with some expert—perhaps a psychologist counselor employed by the schools—to whom to turn for guidance. Thus the wisdom of the specially trained counselor is made available to the teacher and helps to prepare him for more skilful handling of the next case. . . . If the child can get something important from his relationship to a genuinely interested, friendly, secure, competent, understanding, tolerant adult, through daily classroom associations and occasional periods of more intimate talk, then the teacher can carry on treatment. Fortunately the special needs of many deviates can be met within these limitations. The more extreme cases which demand a type of relationship the teacher cannot give will have to be handled by pyschologists, psychiatrists, or trained social workers."[14]

The burden of the paper is that there is much in common between the teacher and therapist so that it may not be so difficult to play a dual role, although as it has been emphasized, if the teacher is forced to pay too much attention to the feelings a child is expressing, his work in helping the child to adjust to the world about him may be interfered with.

While it is true that most persons cannot play the dual roles of teacher and therapist, the possibility of doing so has been disregarded too readily. The good teacher today minimizes his authority. He is interested in and accepts his pupils as individuals. He arranges to give them greater opportunities for expression. . . .

---

[12] *Ibid.*, p. 412.

[13] Rogers, **Counseling and Psychotherapy** (Boston: Houghton Mifflin, 1942), p. 109.

[14] G. B. Watson, "The Role of the Teacher," in **Mental Hygiene in Modern Education**, ed. by P. A. Witty and C. E. Skinner (New York: Farrar and Rinehart, 1939), pp. 517-520.

The Stages of Maturation in Socialized Thinking and in the Ego Development of Two Groups of Children

Allen Bobroff[15]

The danger that those who teach a particular age group will handle normal behavior for that age as if it were misbehavior is always great. As children progress through various stages of growth, their social behavior and ego development change significantly. The behavior of children both in and out of the classroom can be explained by these dynamics of social and ego development. The author of the following research offers a guide to our expectations of children's behavior at various stages of development.

OBJECTIVES AND THEORETICAL FRAMEWORK

This study was designed to investigate the levels of thought and behavior associated with the development of socialization in two groups of young children. The subjects' levels of social maturity were assessed from two points of view. First, the children were evaluated in terms of Piaget's categories of practice of rules and consciousness of rules.[16, 17] Piaget observed boys in games of marbles, interrogated them on their conceptions relating to the games, and found a progression of recognizable patterns of social thinking and behavior at different age levels. In the present study this approach was used for purposes of assessment and comparison, i.e., to describe the stages of maturation of normal and mentally retarded subjects. Second, the corresponding phases of ego development in the same children were examined by analyzing their TAT[18] protocols. In thus evaluating the children's stages of growth in social behavior and attitudes on the one hand and in ego development on the other hand, the writer attempted to interrelate two theories of human development on an empirical level. The theory of genetic mental development as set forth by Piaget and that of ego development as described within the psychoanalytic literature appear to be complementary and consistent. Since the two viewpoints converge in the roles they each assign to genetic and sociocultural factors in influencing maturation processes, one would expect to find their stages of development proceeding concurrently.

Both in Piaget's approach and in psychoanalytic psychology, maturation is held in large part to be dependent upon the genetic growth of perceptual ability. The child's view of his environment progresses from subjectivity to objectivity, from autism to realistic awareness of self and others. The progress of mental growth, as set forth by Piaget, and ego development both depend upon the differentiation of self internally and in relation to the outer world.

---

[15] from **Child Development**, June 1960, Vol. 31, No. 2, pp. 321-338. Reprinted by permission of the author and the Society for Research in Child Development.

[16] J. Piaget, **The Moral Judgment of the Child** (New York: Harcourt, Brace, 1932).

[17] J. Piaget, **Play, Dreams and Imitation in Childhood** (New York: Norton, 1951).

[18] Thematic Apperception Test, a projective technique consisting of a series of pictures about each of which the subject is asked to make up a story.

This differentiation brings about an increasingly objective awareness of reality.

The level of perception of the child affects the character of his assimilation, or utilization of past experience, and of his accommodation, or adaptation to new experience. Assimilation and accommodation are the dynamic elements which explain growth in the Piaget system. Correspondingly, in the psychoanalytic approach, the behavior and value system of the individual reflect the kinds of cumulated responses made by the ego to its internal as well as external experiences. Integration of values into the ego, or reconciliation of internal and external experiences, is similar in effect to the joint operation of assimilation and accommodation. However, in considering the growth of socialization, Piaget focuses his attention on a description of the succession of perceptive structures; while psychoanalytic psychology directs itself to the examination of the forces underlying ego development.

The present study was designed within these two approaches to the analysis of child development. The methods of obtaining data, the criteria for evaluating stages of development, and the explanations of the findings were cast in the appropriate theoretical orientations. The nature of the articulation between growth in mental process and in ego development was expressed in a description of behavior characteristic of the levels of development in each area.

METHODS

By means of observation and interrogation, data were acquired illustrating practice of rules and consciousness of rules. Each child played marbles, first, by himself in a demonstration game, and, second, with the investigator. Following the game, there was a discussion with each child about his conceptions of the game. The entire proceedings were tape recorded. Examples of the types of information considered to be reflective of practice of rules included: use of boundaries, succession of turns, playing for keeps, penalties, application of verbal expressions, consistency between spoken rules and observed behavior, complexity of rules observed, requirements for winning, handling of accidental factors, shooting regulations, and flexibility of the rules. The inquiry into consciousness of rules pertained to the structure and background of the game and the origin and purposes of rules. The normal and mentally retarded children were classified into stages of development on the basis of specific criteria established by the writer within the characteristics of behaviors at successive stages as described by Piaget.

At a separate session from that in which the marble games were played, the TAT was administered to each child participating in the research project. Using categories formulated by Henry for analyzing TAT data, the writer defined a sequence of four successive levels of ego development within each category. These criteria were used to determine the stage of ego development for each subject. The data were thus collected and classified so that comparisons could be made for normal and mentally retarded children at four age levels (mental age) in practice of rules, consciousness of rules, and ego development.

The 64 children, all boys, who participated in the study were enrolled in the regular grades or in the classes for mentally retarded children in the Detroit Public Schools. Thirty-two of the children, those in the regular grades, had IQ ratings of 90 or more, while the mentally retarded group had IQ ratings ranging between 60 and 80. The children of normal intelligence were apportioned into four age groups, with eight boys in each, at these chronological ages: 6, 8, 10, and 12. Similarly, the mentally retarded children were distributed into four age groups, except that the chronological ages were: 8, 10, 12, and 14. The mentally retarded children enrolled in these special classes had been evaluated as educable by the psychological clinic staff. Behavior problem children and children with known physical or neurological disabilities are not assigned to these classes. Children in the special classes for the mentally retarded in the Detroit Public Schools are considered to lag behind the pupils in the regular grades by two years in mental age. Comparisons were made between groups of subjects assumed to be at approximately the same mental age.

The participating schools were selected upon the recommendation of the Director of Research of the Detroit Public Schools. The school neighborhoods represented were predominantly of the middle socioeconomic class according to his criteria.

FINDINGS

Two groups of findings emerge from the present study: (a) a descriptive delineation of the sequence of developmental stages as observed in children at four age levels; (b) comparisons of the relative levels of development in normal and mentally retarded children in the areas of practice of rules and consciousness of rules on the one hand and in ego development on the other.

Developmental stages

. . . *Practice of rules and consciousness of rules.* A hierarchy of five types of games of marbles was distinguishable in the writer's observations of the children's play. The game schemas differed from each other in the degrees of internal consistency and complexity of the rules and in the extent and character of the relationships among the players.

The marble play of the first stage was wanting in orderly, consistent structure. The boys felt free to use the marbles in ways of their own choosing. Some of the children took one or two marbles while others gathered large masses. The impulsively organized actions made it difficult to find any predictable pattern in the number of turns a player received. In their comments the children did not express the feeling that their games should be veered toward the versions played by others. In general, they appeared to be quite content with their avowedly individualistic interpretations of the marble game and did not wish to emulate the games they had seen.

In the first stage the children did not employ any rules in their marble play. Although the child at this level can and does adhere to adult directives, he cannot conceptualize or implement interpersonal relationships resting upon such mutual obligations as are specified in rules.

A simple circle game, varying considerably among players, was frequently played by children in the second, or early egocentric, stage of development. Consistent elements of organization in this game included the establishing of a boundary, a definite sequence of turns, and a goal, that of hitting marbles. Children at this level do not play for keeps. They are unable to relinquish their ownership of marbles as a contribution to the group relationship.

In determining the winner, in handling accidental factors, and in choosing players and marbles, the reasoning of the child appears to be arbitrary. Inflexible utilization of the rules by the child in the second stage indicates that he does not understand their purposes. While the child refers to authoritative sources to lend support to his game, he does not offer any rationale to explain the rules he uses. Extensive improvising of rules was observed by the writer although the children were confident that their games were replications of those played by mentor groups. The child's conscious conception of marbles was that the present game is an image of the games of the past and a presage of these in the future.

In the second stage the child's cognizance of the game behavior of others is accompanied by a desire to repeat the actions he observes. The child wishes to participate with others in common activities and perceives that such relationships are based upon a certain degree of personal accommodation to external requirements. The powerful forces of assimilation, however, prevent the child from exhibiting consistently compliant and conforming behavior. With immature perceptive ability he cannot acquire command of the details of the games he seeks to emulate. Furthermore, his enjoyment of repetitive motor practice and immature control of his impulse drives continue to be important motivating factors.

With advancement in perceptual ability and greater interest in group play, the child in the third, later egocentric, period is more able and willing to accommodate his behavior to standard game procedures. The game *chasers* was frequently played during this period, with little variation noted in the structure of this game as it was demonstrated by the different boys. The objective of the preceding stage, that of just hitting marbles, is now succeeded by the goal of winning and keeping marbles, a development which points in the direction of greater socialization. In general, the rules to the game are more elaborate and cover many of the diverse conditions of game action.

Children in the third stage find it difficult to modify their methods of playing or their conceptions of the game. They have already accommodated their behavior to external models and consequently are reluctant to accept the idea that the rules can be altered, thereby requiring changes in their actions. Furthermore, the rules to the game are considered to have authoritative sanction and hence ought not be revised.

Although the rules are considered to have a traditional origin, the children in this period begin to find reasons to explain their practices. The explanations offered may be directly appropriated from the statements voiced by others, but nonetheless they represent the germ of the kind of thinking manifested in the next stage. At this point, however, the children do not articulate awareness of the evolutionary aspects of rule development nor of the role of group process in this development. They rely with confidence upon precedence and direction, endeavoring to adapt their actions and thinking to the standards established by their superiors.

The primary purpose of rules, according to most of the children, was to prevent cheating. Assigning this function of control to the rules indicates a lack of confidence in the ability of all players to suppress private wants in order to maintain group association. Comments concerning fairness reflected a concern that a readily attainable degree of skill be required for winning. The subjects did not discuss fairness in terms of equal opportunity as a desirable base for socialization.

While behavior was predominantly individualistic in early egocentricity and characteristically conforming in later egocentricity, the period of cooperation and mutual consent is marked by a balance between these two tendencies. The ability of the child to evaluate the perspectives and interests of others lies at the foundation of "cooperative" relationships. Players are able to recognize conflicting interests among themselves, and the essence of competitive games is the willingness to reconcile these divergences on the basis of elements of commonality. Assimilation and accommodation now operate conjointly.

A complex circle game was generally played during the fourth stage. The elaboration found in the rules to this game and in other marble games of the period reflects a more rational approach to the functions of rules. For example, a flexible use of the circle line indicates an understanding of the reason behind the rule, namely, that all boys should begin to shoot from points equidistant from the target. When this condition has been met, play within the boundary is permitted. Presumably, the reasoning underlying this regulation is that competitive skill and planning, rather than chance alone, should determine the course of actions subsequent to the initial shooting. Similarly, the right of superior skill to commensurate reward is illustrated in the granting of additional turns for successful shooting. Group agreements regarding the introduction of specific verbal expressions allow sets of players to select versions of the game in line with their joint inclinations.

In the cooperative stage the child is aware that many of the regulations of play, such as the number of players and the list of acceptable verbal expressions, are determined by group process. Moreover, he recognizes the game to be a summation of the experience and thinking of generations of marble players. Thus, he is willing to consider modification of the rules to his game when the changes are derived through mutual consent. In articulating his opinions pertaining to possible changes in the rules suggested by the writer, the child now was found to consider factors other than source and sanction in evaluating the merits of a proposed rule. A new rule is acceptable if it is reasonable and just according to the child's own conceptions of these terms and if it serves the amalgamated interests of the individual players. The purpose of the rules is the maintenance of equal advantage among players so that winning depends upon skill rather than fortune. A set of fair rules must include recognition of special conditions which affect the relative chances of the players.

The game behavior of the children in the fifth stage is very similar to that described as typical of the fourth. A highly elaborate set of rules and an advanced degree of technical skill are the only differentiating factors between these two levels. A game called *pots* exemplifies the behavior of this period. The player is required to shoot his marble through a sequence of five different holes before he is allowed to shoot at the marbles of the other participants. There is thus an additional element of competition in this game as the players contend in terms of relative speed in progressing through the series of holes as well as in the hitting of opponents' marbles.

Ego development. The progress of ego development was delineated within categories established by Henry for analyzing personality data from TAT protocols. The first category, direction of emotional energy in solving problems, was considered to be an important indication of the level of ego maturity. The emotional energy of the child in stage one is in large part directed toward identifying external cues and placing them into a simple organizational pattern. The themas consisted of simple enumeration of stimuli which were ofttimes repeated. Little awareness of conflict or problem was expressed. Hence, outcomes or solutions could not be posited. The lack of plot structure in the themas finds its counterpart in the spontaneous and undirected action observed in the marble games of the motor period.

While many of the themas of the second stage contained statements of conflicts or problems, the manner of solution was essentially nonconstructive, taking the form of magical wish fulfillment, for example. Practical methods for implementing solutions were not suggested. The children simply revealed an underlying confidence that powers exist which can solve problems to the satisfaction of everyone. The child is not able to gear action between purpose and consequences.

In the TAT themas of the third stage the action taken is usually initiated by adult figures for the benefit of the child. Thus, the child is dependent upon others for help in solving the conflicts which he has posited. The purpose of the action frequently was directed toward resolving and controlling elements of fear and anxiety. Many of the children projected concern over the consequences of nonconforming behavior.

In the fourth stage of ego development the child assumes a considerable degree of independence in searching for solutions to his problems and in implementing action. Nonetheless, he still solicits the aid of others when he cannot or does not wish to rely upon himself. In this stage the child's approach toward solving the problems posited in the themas is cautious and evaluative. He is often able to predict the consequences of action.

The categories designated as attitude toward inner life and system of control were also investigated as being indicative of level of ego development. Passive language and minimal affective expressions typified the TAT responses of the child in the first stage of ego development. In the opinion of the writer the processes of identification and projection were not sufficiently developed to enable these children to transfer their emotional life to the figures on the TAT cards. By contrast, an effervescent display of desires and impulses was found in the responses at the second stage. In projecting his feelings into the stories, the child frequently talked about "I" directly. Foods and eating, representing both pleasure and dependence, were introduced into many of the stories. Problems of inner control appear in the second stage as the child communicates feelings which cannot be fulfilled. Unable to alter the circumstances which prevent this fulfillment or to control his emotions by channeling them into more expedient directions, the child expresses frustration and sometimes even fatalism. Several of the plots involved pretending, which offers a way out of this dilemma. By posing conflict situations and then declaring that the problems were but a guise for more favorable conditions, the child reconstructs reality so that he can cope with it.

The TAT themas of the third stage reflect a more acute awareness of societal demands coupled with attempts to modify behavioral aspects of inner feelings in order to meet these demands. The child seeks to win approval, rather than to be "right." Thus, social norms are not entirely integrated into the ego. Several boys expressed only positive feelings throughout their potheses 1, 2, and 3, which follow, pertain to the comparison of normal and mentally retarded children at four age levels[19] with respect to practice of rules and consciousness of rules.

1. Within the normal group and within the retarded group, the older children will tend to be at progressively more advanced stages than the younger children.

2. Mentally retarded children will go through the same sequence of stages as the normal children in both practice of rules and consciousness of rules. The retardates will lag behind the normal children, however.

3. For children who are at different levels of development in practice of rules and consciousness of rules, stages in practice of rules will be in advance of stages in consciousness of rules.

Hypotheses 4 and 5 pertain to a comparison of stages in ego development with stages in practice of rules and consciousness of rules.

4. There will be a significantly high positive correlation between levels of ego development and stages of maturity in practice of rules and in consciousness of rules.

5. The conclusions found with respect to practice of rules and consciousness of rules, for four age groups and two intelligence groups, will also be true with respect to ego development.

In an analysis of variance, . . . hypotheses 1, 2, 4, and 5 were verified, while hypothesis 3 was not substantiated.

Successive age groups were found to be progressively more advanced in stage of development in the three areas investigated. Thus, mental development with respect to social thought and behavior can be described as a progression of interrelated stages. . . .

Piaget explains the differences in mental process among individuals in terms of level of development rather than in terms of intelligence. The investigation of the normal and retarded subjects was approached from this point of view. The 32 normal and 32 mentally retarded children were found to progress through a similar sequence of development stages. However, a significantly large number of the children in the mentally retarded group were classified into lower stages of development than the normal children of comparable mental age. Hence, even when the two groups were equated on a mental age basis, the retardates lagged behind the normal children by at least a stage.

To the extent that the present study is a replication of the marble game experiment conducted by Piaget and his fellow investigators in their studies of social behavior and thought, comparisons between the Swiss and American data can be made. The major conclusion to be stated in this connection is that the children in both studies progressed through a similar sequence of stages. While Piaget found that his subjects made advances in practice of rules before they progressed in consciousness of rules, the present writer found this to be true only for his older subjects. The younger boy, who was at a different level of development in practice of rules than in consciousness of rules, tended to be more advanced in the latter than in the former stage.

In the aggregate analysis the children were found to be in concomitant stages of progress in practice of rules, consciousness of rules, and ego development. The data for individual children appeared to be concentrated in median stages of development with overlapping of stages within an area manifested in varying degrees for different subjects. Although many children were classified into a more advanced stage of development in one area than in another, the statistical results indicate concomitant progress in the three areas for the groups as a whole. . . .

SUMMARY AND DISCUSSION

. . . Generalizing from the data, in which it was found that the groups of children proceeded through concomitant stages in both areas studied, the following sets of character-protocols, assiduously attempting to meet social expectations as they conceive them. To assist the child in meeting adult standards, many external controls, such as admonitions, prohibitions, punishments, etc., were introduced into the themas. The strain of the struggle for inner control is revealed in attitudes of resentment and in the recurrence of such elements as forgetfulness, unintentional mischief, and accidents among the stories in this stage.

---

[19] Age group A was composed of eight normal children who were chronologically 6 years of age, and eight mentally retarded children who were chronologically 8 years of age. Similarly, age group B was composed of eight normal children who were 8 years old and eight retardates who were 10 years old. The eight normal subjects in age group C were 10 years of age, and the eight retarded children were 12 years of age. In the oldest group, age D, were eight normal children 12 years of age and eight retardates 14 years of age.

By the time they attain the fourth level of ego development, the children manifest a considerable degree of inner control. They continue to strive for a harmonious balance between feelings and demands. The plot situations created were generally conducive to the achievement of the expressed motivations. In some instances the themas required that the wishes of the characters be modified or that their action plans be altered. When inappropriate drives appear to penetrate control barriers, the child expressed guilt, which operated to curb unacceptable behavior.

In endeavoring to meet environmental demands, the child in the fourth stage makes an attempt to understand them. Thus, many themas were concerned with adult problems, reasonings, and feelings. Concurrently, the children told stories expressing desires for independence. Running away tales were popular among the boys in the fourth level of ego development. Frequently the boys revealed their anxieties over the responsibilities of independence by recounting sad or unfortunate episodes in connection with running away.

Evidence relevant to an analysis of the categories, interpersonal relations and family dynamics, was also explored and evaluated. The children in the first stage pointed out single individuals rather than groupings of persons. Figures were identified impersonally, such as "someone," and their roles or functions were not mentioned. The absence of parental or other authority figures made it difficult to assess interpersonal relations from the limited material of the first stage.

In the second stage the child grouped the figures on the cards albeit without alluding to communication or interdependent functioning among the group members. Within the assemblages, individual will and activity predominate. In the TAT stories, as in the marble game, the child appears cognizant of the existence of groups, but there is little mutual participation among group members. Adult figures were viewed in terms of their relationships to children, such as "father." Unidimensional attitudes toward authority were expressed, however. Parents were considered to be entirely protective by some children or entirely restraining by others. In the third period the child perceives groupings of people engaged in common activities. He casts the figures into specific roles, but he does not project any understanding of their problems.

A wish for independence, replete with apprehensions, is apparent in the TAT responses of the third period. Many themas concerned money problems, which were considered as evidence of anxiety in connection with a desire for independence. Adult figures who thwarted the child are made to feel remorseful or guilty for their actions, or possibly sympathetic toward the child's plight. Attributing such feelings to authority figures may reveal the child's own reactions. On the other hand, many stories also contain expressions of the satisfactions which are derived from both helping the adult and receiving approval from him.

In the fourth stage expressions of joint giving and receiving as well as feelings of empathy among the characters in the stories are indicative of the quality of interpersonal relations. The stories reflect interest in the role and attendant functions of such figures as the doctor, the teacher, the parent, the friend. In plots where siblings were introduced, accompanying expressions of positive affect were noted. Concurrently with expressions of resentment and desires for independence, several of the themas also contained the beginnings of an understanding of the tasks, problems, and emotions of authority figures.

Group comparisons

As discussed previously, several of the objectives of the study concerned group comparisons. Hypotheses were formulated to state the expected relationships among the variables which were considered in the research. Hyistics can be said to be typical of child development:

Stage I (age 6—normal subjects; age 8—mentally retarded subjects)

1. The child acts upon his impulses, with apparently little or no prior deliberation.
2. Relationships among objects are determined by such elementary classification or organizing principles as proximity.
3. The child does not differentiate between what are rules (which regulate the behavior of interacting individuals) and what are habits (which he practices as an individual).
4. The child's game behavior consists of either repetitive motor actions or expressions of personal fantasy.
5. The child's game behavior is self-oriented, even when he is joined by others in play.
6. The child appraises situations in a personal, subjective way. There are wide variations among children in their descriptions of the same phenomenon.

Stage II (age 8—normal subjects; age 10—mentally retarded subjects)

1. The child tries to use the criteria utilized by adults for evaluation of events, but his successful adaptation of these criteria is hampered both by his limited facility to understand the nature of relationships and by his lack of experience.
2. The child does not perceive cause and effect operating in human relations. Hence, he views outcomes as fortuitous in nature and independent of purposeful action.
3. The child tends to express his feelings with minimal self-restraint. The desire for approbation and fear of reprobation constitute the forces which help the child gain control of some impulses.
4. The child accepts the proscriptions of authority figures as "desirable" while showing little understanding of the roles, functions, or feelings of these persons.
5. The child is eager to learn the necessary group rules, but he is neither completely cognizant of them nor thoroughly persuaded of their purposes and functions.
6. The child wishes to behave acceptably. However, he does not yet understand why certain behaviors are expected of him and hence he often acts as if unaware of external demands.
7. The child prefers games of short duration, although he may play for extended periods of time. With limited anxiety tolerance, he appears to enjoy a succession of short term goals.
8. The child is attached to many personal possessions and is unwilling to relinquish such objects to other children for the dubious rewards of group fun. For example, children at this age seldom play marbles for keeps.

Stage III (age 10—normal subjects; age 12—mentally retarded subjects)

1. The child often tries to modify some of his *feelings* in accordance with the demands of his school, family, social group, etc.
2. Curbs upon the child's behavior are still in large part foisted by the existence of external sanctions. Concomitantly, however, the child is developing a set of his own, individual, inner controls.
3. The child is beginning to recognize and understand, with considerable objectivity, many of the aspects of adult roles. He tries to incorporate the point of view of his "models" as a basis for forming his judgments.
4. The child respects those whom he considers to be in authority and looks beyond himself for guidance in solving his problems.
5. The child wants to and is able to master the details of the rules to games and to follow them correctly.
6. The child appears willing to work toward more distant goals. He is able to forego immediate satisfactions for the greater pleasures in meeting longer term objectives.
7. The child begins to seek the many values afforded by group association. He is willing to subvert some of his private inclinations in order to facilitate team activity.

Stage IV (age 12—normal subjects; age 14—mentally retarded subjects)

1. The child can articulate his feelings within the alternate modes society provides for their expression.
2. The child is in the process of developing a more mature inner control system through internal commitment to a hierarchy of values.
3. While the child recognizes the (often primary) importance of his own point of view, he tries to understand adult attitudes and opinions.
4. The child demonstrates a belief that, in general, calculated actions produce predictable outcomes.
5. The child is more able to understand reasons for rules in terms of the interrelationships among groups of people.
6. The child can view reality more objectively, and he is better able to grasp causal relationships.
7. The child is able to compromise some of his private desires in the interests of group functioning without submerging his individuality.

Personality appears to be a blend of these three components: predispositional temperament, an accumulation of emotional and cognitive experiences, and genetic maturity. Broadly identifying genetic trends in the development of groups of children enables one to recognize particular conditions (individual temperament or experiences) which determine a given child's performance, feelings, and attitudes. The schemas outlined above represent an attempt to isolate common elements in the patterns of development of children. However, the fusion of factors influencing ego structure at a particular time cannot be separated experimentally for our scrutiny. This fact poses methodological difficulties for empirical research. We are limited to such inferences as may be drawn on the basis of group study of those behaviors which appear in large part to be determined maturationally. The statement that the groupings outlined above are intended to be generally descriptive of successive phases of development must be qualified in terms of this underlying methodological base. Many individual variations were found to exist in overlapping of stage characteristics, in age, and in the complexity and individual qualities of the responses.

The findings of the present study have implications for parents, educators, and psychologists in their interactions with children. The patterns discussed provide a partial guide to our expectations of children's behavior at successive developmental stages. For example, the young child is largely dependent upon external strengths to aid in the control of many impulses. The adult is thus responsible for helping a child in his current wrestle with certain behavioral problems and, at the same time, for assisting him in the longer range development of an inner control system based on reasoning and understanding. Recognizing those impulses which dominate the behaviors in early childhood, the adult must tread between the boundaries of overburdening the child with demands on the one hand and of failing to provide sufficient controls for him on the other hand.

Only when educational objectives and methods are designed within the context of the sequence of development of the students can they be appropriate and effective. As an illustration, the older child is more likely to be taught effectively when given group work experiences than is the younger boy or girl. The pattern of child development, in an oversimplified but perhaps useful statement, is one of dialectic upward vacillation from individualism through conformity and finally to a combination of social-yet-singular being. Thus, the teacher in the early elementary grades might select as her objective the sharing of equipment by children who are doing individual work. . . .

Two of the alternative, sometimes conflictual, drives discerned in the children participating in the study were the need for self-expression and the desire to conform. In attempting to direct and balance these forces, parents and educators face the problem of fostering originality in the child while teaching him to take advantage of a rich heritage of techniques and knowledge. On the basis of the descriptive outline of development, children learn skills very easily during the middle periods of development. During the earliest stage delineated above, the child expands upon his perceptual acuity and emotional containment until he is capable of blotter-like absorption in contact with his environment. To use, but not abuse, the child's middle stage propensities is the delicate problem faced by sensitive parents and teachers at this time. There are too few occasions when the adult must evaluate the influence of his actions upon the development of the child. It may often require self-restraint for the adult to encourage the child in independent probing, to acquire the technique of answering a question with another component question.

In some cases, a child's tendency to accommodate his behavior to the group expectations may direct itself to the standards of persons other than parent or teacher. Planning relationships with such children depends upon an investigation of the accompanying temperamental and experiential (family and sociocultural) factors. Regardless of the direction of the child's conformity, however, helping him to find reasons for beliefs or situations, difficult though this process sometimes can be, will offset the tendency toward obscuring of self during the third stage and promote the future internalization of desirable social values.

Finally, the present study illustrates that the mentally retarded child's social behavior and thought and ego development patterns are in agreement with the developmental schemas presented above. That is, *educable* retarded children, in the process of maturing, follow the same sequence of developmental stages as normal children. . . .

No single empirical study can do all things at once. To verify the cross-sectional description of genetic growth, a longitudinal study which follows the development of the same children over time is needed. In addition, a more comprehensive view of development would emerge were the researcher to investigate a child's thinking in several different areas at the same time. . . .

INTERPRETING THE SELECTIONS

Kounin, Gump, and Ryan article

1. What is the significance of the findings relating to task-focus *versus* approval-focus?

2. How do the variables within a pupil influence his reaction to discipline directed toward another pupil?

3. How does high motivation to learn affect a pupil's reaction to various disciplinary techniques?

4. What conclusions can be drawn about the value of punitive *versus* nonpunitive disciplinary techniques?

5. Toward what directions for further research does this article point?

Porter article

1. For what behavior problems were punitive measures most frequently mentioned?

2. How might you go about setting up an experiment to determine whether teachers actually practice the methods in which they profess to believe?

3. Do you agree with the general consensus of the most serious behavior problems? What others would you include?

4. You might be interested in reading the Wickman study of 1928 to compare present teacher attitudes with those of several decades ago. (Wickman, E. K., *Children's Behavior and Teachers' Attitudes*, New York: The Commonwealth Fund, Division of Publications, 1928.)

Symonds article

1. This article suggests that ideas, concepts, skills, and so on can be taught directively, whereas emotional growth cannot be taught or directed but must be achieved by the person himself (perhaps with the encouragement and permissiveness of a therapist). This seems in direct contradiction to the findings of other educators that through planned teaching, children became more self-accepting, understanding, and cooperative. Do you see any way of resolving these two positions?

2. Does your observation support Symonds' statement that a child's learning is in response to the teacher's expressions of love and in order to retain that love? How could you test this hypothesis?

3. To what extent should it be the responsibility of an elementary-school teacher to plan definite measures for fostering children's mental health? Of a high-school teacher? A college teacher?

Bobroff article

1. From this study what behavior norms would you take into account in planning for fifth-grade activities?

2. What is meant by assimilation and accommodation? How do these concepts fit into a dynamic growth theory?

3. What is the significance of the findings with regard to internal *versus* external controls upon impulse behavior?

15

SOCIAL-EMOTIONAL PROBLEMS IN THE CLASSROOM

A Process for Identifying Disturbed Children

Eli M. Bower[1]

The logic of identifying mental illness in its earliest stages would seem to be so obvious as to be an actual practice. Yet the spotlight of attention and research in this field is most often focused on the *treating* rather than on the *preventing* of mental illness. What role can the school, and most specifically the teacher, play in preventing personality disorders in children? The study reported in the following selection discusses how the classroom teacher can engage in the kind of action research that will enable him to recognize children with potential emotional problems and, on the basis of this knowledge, utilize the remedial services available.

In a world where the flick of a switch can turn darkness into light, where a spin of a dial can transport a person from the South Pole to an Iowa football field, where one can drive about in a pushbutton car with the assurance that the stove at home will turn the oven off when the meat is done—in such a world it would not be surprising for a kind of faith in magic to be prevalent. Attitudes which result from technology's amazing simplification of everyday time-space problems through easily operated gadgets may be displaced onto problems in the social-personal areas of living. This search for the magical solution is perhaps most evident in the approach to complex problems about which little scientific knowledge is available and which directly involve the human personality. It is especially so in regard to the problem of mental illness.

The search for a kind of psychological penicillin by which mental illness and its associated disabilities could be prevented has been particularly intriguing. Such a search often leads to the discovery or rediscovery that the public school is an institution whose services are available to all the children in the community, which employs professional personnel trained in the understanding of personality development in children, and which can and often does establish ancillary services to help teachers and parents. It is not surprising, then, for agencies dealing with problems created by poor mental health to look to the school as an avenue for reducing the rate of psychological morbidity in our population.

---

[1] from **Children**, Vol. 4, No. 4, July-Aug. 1957, pp. 143-147. Reprinted by permission of the author and the Children's Bureau, Department of Health, Education, and Welfare.

Often the specific request made of the school is: "Identify and help emotionally disturbed children early." The possible effectiveness of early identification in preventing unwholesome personality development rests on at least two assumptions which need scientific clarification. The first is that emotional disturbance is the result of a progressively developing condition visible and susceptible to evaluation early in a person's life. Its corollary is that the school, as now constituted, can recognize this condition economically and within the present framework of daily activities.

The second assumption is that the child who is identified early in life as emotionally disturbed can be helped with less trouble to himself and the community than would be the case at a later period in his life. Although the assumption that the earlier the identification the easier the cure seems both logically and psychologically sound, it is still a proposition based on faith and conviction.

THE STUDY DESIGN

Acknowledging these gaps in knowledge, and in spite of them, the California State Department of Education initiated in September 1955 a study concerned with early identification of emotionally disturbed children. Specifically, the study was aimed at discovering to what extent a teacher-centered procedure might be employed for identifying disturbed children in a class and to what extent information ordinarily obtained by the classroom teacher about children might be used for this purpose. "Identification" was conceived of as a process rather than an act—a process which might favorably affect the teacher's perception of behavior and help point the way to remedial measures. The study plan was based on the assumption that to be effective this process had to be carried out by the teacher as the person in the school most closely involved with the children, the one who had more day-to-day contacts with each child than anyone else on the school staff, and the one who was in the most advantageous position to observe the children's relationships and behavioral patterns.

Before involving the teacher in the study, the study staff asked the psychiatrist, psychologist, or counselor in each participating school to identify some children who were being seen or who had been seen by the clinical staff and who in their opinion were "emotionally disturbed." Classes in which one or more of these children were enrolled were then selected for participation in the study without revealing to the teacher the criterion for selection.

The purpose of the study, as explained to the teachers, was to study all the children in the class. Some of the teachers knew that some of the children in their classes had been seen by the school psychologist or clinic; others did not. In any case, the only knowledge the study staff wished to keep from the teacher was the reason for the selection of her class. This, the staff felt, would be necessary to prevent the research itself from biasing the teacher's perception of her children.

Several conditions were agreed upon by the study staff and the schools in regard to the information the teachers would be asked to collect. These were:

1. It could be obtained by teachers in their everyday, routine interaction with the class.
2. Gathering and recording it would not involve a disproportionate amount of teacher time.
3. The type of data expected could be so defined as to have the same operational meaning to each teacher.
4. It would tap as many sources as economically possible for indication of the child's behavior.
5. The information-gathering procedure would allow the part of "suspectician" to fit harmoniously and acceptably into the teacher's perception of her role and responsibilities.

The categories of information finally selected for the teachers to collect about each child were:

1. Individual scores from group intelligence test.
2. Individual scores from group achievement test in arithmetic and reading.
3. Individual responses to a group administered personality inventory, "Thinking about Yourself."[2]

---

[2] California State Department of Education. **Thinking about Yourself** (Sacramento, 1957).

4. Results of a sociogram, "The Class Play."[3]
5. Age-grade relationship.
6. Rate of absence.
7. Rating of socioeconomic index based on father's occupation.
8. Teacher's rating of the child's physical status.
9. Teacher's rating of the child's emotional status.

Information in all these categories was collected on approximately 4,400 children by approximately 200 teachers of fourth, fifth, and sixth grades in about 75 school districts. Among the children were 207 clinically designated emotionally disturbed children—162 boys, 45 girls.

In the instructions to the clinicians no sex ratio for selection was indicated. It is interesting to note that the resultant random selection resulted in a ratio of emotionally disturbed boys and girls very close to the ratio of referrals.

The information was collected by each teacher for all the children in her class on a special form devised by the State department of education and returned to the department for processing.

The first analysis of the data was to determine to what extent, if any, this information could help a teacher to differentiate the emotionally disturbed child from the rest of the children in the class, how many emotionally disturbed children there were in the school population, how they were perceived by other children, and how they perceived themselves. It was proposed that as part of this study the data which significantly differentiated the emotionally disturbed child from the others be analyzed to discover the degree of differentiation. Then each item of the differentiating data would be weighted in proportion to the size of its ability to differentiate. For example, if "The Class Play" technique and group I.Q. scores both turned out to be significant but one turned out to be twice as discriminating as the other, they would be weighted accordingly. After the weights were assigned, the data and the weights would be tried out by a variety of teachers and classes to learn what corrections, additions, or subtractions needed to be made in the process.

THE FINDINGS

. . . Following is a brief summary of the aspects of the information collected by each teacher which differentiate the emotionally disturbed children (those selected by the clinicians) from others of their classroom. (In all these statements the word "significantly" refers to the 0.01 level of confidence, meaning that there would be one chance in a hundred that a difference as large as the obtained difference would occur by chance. "They" refers to the selected emotionally disturbed group.)

1. The emotionally disturbed children scored significantly lower on group I.Q. tests. On psychological tests given individually, they approached the mean of the group.
2. They scored significantly lower on reading and arithmetic achievement tests. The differences were greater and more significant on arithmetic achievement. The higher the school grade, the greater the differences between the emotionally disturbed child and the rest of the class.
3. They differed significantly from the other children in the class in their self-perception as revealed in some of the items in the Personality Inventory. Emotionally disturbed boys exhibited greater dissatisfaction with self and their school behavior than the other boys. Emotionally disturbed girls showed less dissatisfaction with self than the rest of the girls in the class.
4. On the sociogram, "The Class Play," the other children in the class tended to select emotionally disturbed children for hostile, inadequate, or negative roles and failed to select them for the positive, good roles. Hostile children particularly were selected for roles consistent with their behavior.
5. The emotionally disturbed children came from homes which were not significantly different in socioeconomic level from those of other children generally. (This fact was revealed by a chi-square test comparing the distribution of the occupations of the fathers of the emotionally disturbed children and the occupations of the fathers of the rest of the children in the class.)
6. Altogether 87 percent of the clinically known emotionally disturbed children were rated by their classroom teachers as among the most poorly adjusted children in the class. . . . Nearly 61 percent of these were described by the teachers as being overly aggressive or defiant often or most of the time, while 25 percent were designated as being overly withdrawn or timid quite often or most of the time. As perceived by teachers, 4.4 percent of all the children in the class were overly aggressive

---

[3] California State Department of Education. The Class Play (Sacramento, 1957).

or defiant most of the time, while 6.1 percent were overly withdrawn or timid most of the time.

Some of the implications of the study might have been expected. Others may be more surprising. Here are a few:

1. Children's judgments of other children's personality are surprisingly accurate and predictive.
2. Teachers' judgments of emotional disturbance are very much like the judgment of clinicians.
3. Teachers in this study selected a greater number of children as being overly withdrawn or timid most of the time than as overly aggressive or defiant most of the time.
4. At least three children in each average classroom can be regarded as having emotional problems of sufficient strength to warrant the appellation "emotionally disturbed child."
5. The differences between emotionally disturbed children and the others seem to increase with each grade level. In essence, the rich get richer while the poor get poorer.

A PSYCHOLOGICAL THERMOMETER

It should be reemphasized that this study was aimed at securing a "psychological thermometer" about schoolchildren for persons in a favorable position to use such a device, and at nothing more. Like the medicine-chest thermometer which may add little information to the obvious fact that a person has a high temperature, such a psychological thermometer may confirm a suspicion, reject a suspicion, or raise a suspicion. It may provide teachers with a more accurate base than personal supposition for communicating with specialists, as well as a possible gauge from which individual change can be assessed. It may provide the teacher with a method for evaluating her own processes. It may also raise pertinent questions in a teacher's mind, particularly when it does not confirm her judgment about a specific child or when it indicates that a formerly unnoticed child might be having difficulties.

For example, a teacher reported that the sociogram, "The Class Play" (a device in which children select roles for themselves and other members of the class for a hypothetical play), did not seem to be a very reliable method for learning about the children since some of the results in her class did not coincide with her observations. She noted that a child whom she saw as a leader of the class was not chosen as such by the other children. When asked whether both perceptions might not be correct, she answered: "Well, he always seems to be a leader when I'm around." But a few weeks later she reported that the other children did feel differently about the child than she had supposed.

"You know," this teacher observed, "it's interesting really to find out that your idea about a child isn't the only one. I think I see him a little differently now because I am also able to accept how others see him."

One part of "The Class Play" provides for a comparison of the role each child selected for himself and the roles selected for him by his classmates. Thus it serves as a device for studying the reality-testing aspects of a child's personality and for making some inferences about how a child sees himself and how others see him.

A highly intelligent fifth-grade girl who was chosen for many negative and hostile roles by her classmates chose negative roles for herself when asked which parts she thought her classmates would choose her to play and which parts her teacher would ask her to play. But in answer to the question, "Which part would you like to play?" she chose the heroine role. Later this girl told her teacher that she realized how her classmates felt about her but that she felt she was gaining greater understanding of herself, "that she knew what she was up against and was working on it."

A boy received 8 positive and 8 negative choices by the class. His teacher found that his nickname among the children, "Little Nuisance," was an honest reflection of the mixture of affection and irritation his classmates felt in regard to him. The boy saw himself as the class did, choosing himself for an equal number of appropriate positive and negative roles, and accepted the appellation with good grace. Other parts of the data gathered on this child by the teacher led her to a more meaningful understanding of how this child perceived himself and how other children reacted to him.

POSSIBILITIES OF PROCESS

This process for helping the teacher identify the emotionally disturbed children in her class might be regarded as a kind of action research with two major purposes: (1) to help the teacher understand the relativity of her perception of the children; (2) to provide teachers with a systematic, meaningful procedure for using available information about children in verifying or rejecting hypotheses about their adjustment status.

As Coladarci[4] points out, "the teacher must be an active, continuous inquirer into the validity of his own procedures." This process may very well help the teacher become a more effective inquirer.

It is also possible that this process might be helpful to the teacher-clinical staff relationships.

An emotionally disturbed child whose behavior is erratic or disrupting can and often does induce anxiety and despair in a teacher: Often the relationship of the class and teacher to the emotionally disturbed child is such that no solution but separation of the child from the group is acceptable. When this point is reached, the teacher often seeks the help of the clinician as a "waver of the magic wand"—that is, as a person who can solve the problem quickly either by changing the child's personality or by changing his room. It is sometimes difficult for the teacher to accept the fact that her expectations cannot be met and that she must participate in the slow process of "understanding" the child.

Intellectually the teacher may recognize the limitations of the clinical service; emotionally, however, she may be disappointed that nothing happens and that she is still plagued with the problem. In time, therefore, she may come to feel that the clinical service offers little to help her. The psychologist or guidance worker on the other hand may be so overwhelmed by the numbers and seriousness of problems brought to them that he becomes immersed solely in the clinical nature of his task. As Krugman points out, "Because there is almost never sufficient staff in a school-guidance program to do what needs to be done, the tendency is usually to focus on emergencies or immediately annoying problems. . . . We still have too great a tendency to throw our full armamentarium of personality appraisal methods into efforts to salvage the problem child."[5]

The anxiety induced in a teacher by one or more emotionally disturbed children is often visited upon all the children in the class. As a result those children with situational or incipient problems who can be helped by the teacher may be overlooked or overevaluated. However, a teacher who "knows" the children and the class may be more comfortable about seeking help and more aware of her own personal anxieties and biases in appraising children. It may be necessary at times for a teacher to accept the fact that some children are seriously disturbed and need psychiatric treatment. The number and urgency of serious problems may be greatly reduced, however, if the teacher-clinical team can be helped to make the most of the school's potential for preventing personality distortions in children. . . .

For the most part we have been attempting to promote mental health in our society by trying to deal with the consequences of mental illness and its allied manifestations. This is about as effective as trying to turn back the Mississippi at New Orleans. . . .

Certainly there are at present no magic buttons which we can push to insure increased amounts of emotional maturity for our future citizens. It would seem most profitable, however, to attack the problem of enhancing personality growth at definite points with specific programs of action and evaluation. For if there is a potential for magic, it lies in the resiliency of the child. Perhaps through this and similar projects it will be possible to learn more of the exact nature of this resiliency and how we can make the most of it in promoting mental health.

---

[4] Arthur Coladarci, "The Relevancy of Educational Psychology," **Educational Leadership,** May 1956, p. 490. This article is reproduced in the present volume, pp. 1-3.

[5] M. Krugman, "Appraisal and Treatment of Personality Problems in a Guidance Program," **Education in a Free World** (Washington, D.C.: American Council on Education, 1954), pp. 114-121.

Basic Approaches to Mental Health: The Human Relations Program at the State University of Iowa

Ralph H. Ojemann[6]

The teacher's increased responsibility for more than the academic progress of each child in his classroom includes the need for an awareness and understanding of the dynamics of human behavior, or, as it is often called, "the causal approach to behavior." However, such awareness on the part of the teacher will not necessarily improve human relations in the classroom unless the children themselves learn to approach behavior in terms of its causes. The following article, by a leading exponent of preventive psychiatry, describes an actual program in which causally oriented teachers teach content materials in terms of the causes behind the behavior problems and social situations being discussed. The children who have been exposed to this program—even the very young ones—have demonstrated significantly improved understanding and tolerance of their own and other people's behavior, resulting in better human relations in the classroom and, presumably, in other areas of the children's lives as well.

Some years ago when we were making observations of parental and teacher behavior toward children, it was observed that parents and teachers tended to deal with child behavior as a surface phenomenon instead of taking account of the factors underlying or causing the behavior. Observation also tended to indicate that such an approach to behavior tended to produce conflicts and emotional strains in both adult and child.

For example, if a child attempted to overcome a feeling of inadequacy by "pushing" to be first so often that it interfered with class activity, the teacher who approached this behavior as a surface phenomenon would try to stop it by such methods as reprimanding the child, making him go to the end of the line, or sending him out of the room. She tended to do this without thinking about or inquiring as to the causes of the behavior. Since the feeling of inadequacy remained in spite of the scolding, going to the end of the line, or leaving the room, the child would still be under a strain and would attempt more vigorous action or a different approach. The teacher would soon observe that her attempts to stop the behavior were not successful. She would tend to intensify her attempts to stop the pupil's interfering behavior and the whole round of strains would rise to a new level.

Observation of the behavior of parents toward children tended to reveal a similar situation. Analyses of parental behavior often revealed a sequence somewhat as follows. In the early years of the child's life, parents would try to control him by telling him what to do, punishing him, coaxing him, and so on. When these procedures failed after years of trial some parents would give up. This left the child to his own devices for meeting problems and he often failed to find satisfying and cooperative solutions. Other parents would doggedly persist, only to meet with increasing resistance and conflict.

---

[6] from **The Personnel and Guidance Journal**, Vol. 37, No. 3, Nov. 1958, pp. 199-206. Reprinted by permission of author and publisher.

WHAT THE EARLY OBSERVATIONS SUGGESTED

An analysis of such behavior on the part of parents and teachers suggested that if they could extend their insight into and appreciation of the causes of behavior and change from a surface approach to an approach that takes account of the dynamics of behavior, the chances of blocking strong motivations in the child (and also in themselves) would be lessened and the chances for cooperative or mutually satisfying interaction would be increased.

A test of this hypothesis was made in the case of teachers in a study by Wilkinson. Through the use of an experimental and control group it was shown that as the teacher acquired more insight into the backgrounds, ambitions, worries, and concerns of pupils, conflict between teacher and pupil tended to lessen and the pupils' attitudes toward school tended to change in a more favorable direction.

A close examination of the idea that teachers and parents can guide children more effectively and produce less emotional conflict if they approach the child's behavior in dynamic terms suggested that we were dealing with two cases of the larger problem of the relation of one person to another. The reactions of a teacher toward a child or a parent toward a child are essentially reactions of one person toward another. This observation suggested the question, will the hypothesis hold in any human relationship? If we change children to approach behavior dynamically, will that help them in getting along with adults and with their associates?

When we examined the whole problem still more closely we noted another aspect. After a child learns about the factors that underlie behavior, theoretically he could apply this learning not only to the behavior of others but also to his own actions and to the guiding of his own development. For example, if he learned that over-aggressive behavior is often motivated by a feeling of inadequacy, and if he learned something about how feelings of inadequacy develop and how they can be overcome, he would have something to help him interpret his own over-aggressive behavior or his own feelings of inadequacy. The question then became, if we change children so that they appreciate the differences between the surface and dynamic approaches to behavior, will that affect their relationships with others and their relationship to themselves?

This question had two parts. (1) Can children acquire an appreciation of the differences between the surface and dynamic approaches to behavior and apply the dynamic approach in their relations with their parents, teachers, other adults, in their relations with their associates, and in guiding their own development? (2) If they can learn and can be motivated to apply, will that reduce the emotional conflicts and increase the amount of mutually satisfying interaction in these relationships?

This question, with varying emphases on the several aspects, was studied in the investigations by Morgan, McCandless, Bate, and Stiles. In summary, these investigations showed that children in the elementary and secondary grades can learn the beginnings of the dynamics of behavior, that they can learn to apply this knowledge in their relations with others, and that the process of learning about human behavior can be greatly extended on the school level.

THE PLACE OF EDUCATION IN HUMAN RELATIONS IN THE SCHOOL

When it became fairly clear that children can learn to approach behavior in terms of its causes, considerable thought was given to the next problem that suggested itself, namely, how can the material about behavior be inserted into the school curriculum?

Two approaches could be made. One would be to introduce a separate course on human relations. This is perhaps the first suggestion that occurs. When we studied the problem, however, several questions arose.

When we looked over the various "core" areas in the school curriculum we noted several that dealt rather directly with human behavior. Examples are social studies, English (human behavior in literature and writing), home economics (family relationships), and guidance. How did it happen that in spite of these opportunities to study human development people grew up with a surface approach to behavior as in the case of the parents and teachers we had observed? Why is the surface approach so apparent in our culture? . . .

It is well known from studies on learning that changes are made most effectively when that which the child learns is applied consistently in a variety of situations. This suggested to us that we may profitably experiment . . . with the possibility of changing the content of school subjects from a surface to a dynamic treatment. Accordingly, studies were undertaken to determine how the material on the dynamics of behavior could be integrated into such areas as social studies, English, guidance, home economics, and others. Also, studies were undertaken to see how and to what extent the child could apply the dynamic approach in his relations with his associates and in guiding his own development.

In addition to school influences, there are the home influences. A child learns from the way his parents act toward him. Just as in the case of the teacher, the parent can work with the child using a surface approach or a more causal approach. If he uses principally a surface approach he is demonstrating to the child a non-causal method of working with others which the child will also tend to adopt. We have evidence that children learn early in life a surface approach to behavior.

Such an analysis of the problem indicated to us that if we wanted to develop causally-oriented children, we needed classrooms equipped with teachers who both teach causally-oriented content materials and practice the causal approach in the daily relations with pupils. It would also help if the home environments of these children practiced the causal approach at least in some measure. We have attempted to develop such classrooms and homes.

Under our general plan, the program, by arrangement with a school system, provides summer fellowships so that selected teachers can attend an intensive training program. This program is designed to familiarize the teacher-students with the differences between surface and causal approaches, to help them apply the causal approach to the daily activities in the classroom, and to develop skill in teaching causally-oriented materials.

A supervisor of teachers, on the Preventive Psychiatry staff, works with the teachers throughout the year, holding a series of conferences with each. During the summer training program, each teacher assists in the preparation of teaching materials for his own classroom. With the supervisor's help he continues this adaptation of materials for classroom purposes throughout the year. We thus obtain a group of classrooms for our laboratory, each equipped with a causally-oriented teacher and appropriate curricular content.

EXAMPLES OF CURRICULAR EXPERIENCES

To provide a more detailed picture of the integrated program as presently conceived, it may be helpful to examine some of the actual learning experiences that are provided at several age levels. Examples for this purpose will be drawn from two age levels, namely, primary and intermediate.

1. Examples of experiences at the primary level

A. *Demonstrations furnished by the teacher's behavior.* At each age level, as has been indicated, the child is influenced by the behavior of the teacher as well as by what he hears or reads. How the teacher handles the day-to-day social situations that arise in the classroom and on the playground, the extent to which the teacher seeks to know the child's ambitions, concerns, and abilities and makes use of this information in planning his program of work and understanding his behavior before dealing with it, are examples of experiences that affect the growth of a causal orientation.

This training of the teacher to practice the causal approach is an important part of the program at all age levels and the primary level is no exception.

Furthermore, as soon as the child has some appreciation of why a situation has to be understood before it can be reacted to logically, the teacher can take the simpler situations that arise and work them out with the class to involve the children in a practical application of a causal orientation. It is important that the teacher choose only the simpler situations at the beginning, for a careful grading as to difficulty is as important in learning human behavior concepts as it is in learning other concepts.

B. *Use of narratives.* To help the primary child develop an appreciation of the differences between the non-causal and causal approaches (at the primary levels the teachers have labeled the approaches the "non-thinking" and "thinking" ways), a variety of materials have been developed which can be read to the child and discussed with him. One type of material consists of stories in which the non-causal and causal procedures are contrasted. Listening to the narratives and discussing them provide vicarious experiences for learning the differences between the two ways of living.

Each narrative describes some behavior situation. After the situation has been set forth, some character in the story begins to make a surface approach to it, then rethinks his proposed reaction and makes a more causal approach. Some of the ways in which the behavior may have developed come out and one of the characters in the narrative acts in the light of these data. The situation has a reality about it in that someone begins to make a surface approach which children in our culture experience quite frequently. But, it also introduces a new way of living—a way that takes account of the meaning or the causes of behavior instead of its overt form.

For example, in one situation a boy gets into so many fights that something has to be done. The teacher in the story is about to deal with this in the usual way when he recalls that such things do not occur of their own accord. He does a little probing and before long it comes to light that this boy has been teased a great deal because he had to go home immediately after school each day to help take care of his baby sister and didn't have time to play with the other children. When the teacher learns this, he takes measures to work out this basic problem.

To help the child develop a more generalized conception and to prevent him from thinking only of incidents involving himself, situations were developed involving children older and younger than himself and children from quite different environments. There is some observational evidence that situations involving people different from the child tend to be less emotionally charged and therefore less difficult for the child to consider causally in the early discussions.

Each narrative is preceded by a short introduction for use by the teacher. After the reading of the story there is a discussion. The purpose of this discussion is not only to recall the incidents of the story, but also to bring out the differences in procedure when one thinks of causes as contrasted with principal attention to the overt form of behavior. The discussion is also designed to consider alternative ways of meeting situations and some of the probable effects of these alternatives.

It is suggested to the teacher that this material furnish part of the offering in the regular "story period." Under usual school conditions, the material read in the story period deals with various objects and events in the child's environment. Some of it deals with physical objects, some of it deals with people. It is suggested that material dealing with people be heavily weighted with the causally-oriented materials described. The causally-oriented stories are thus part of the primary child's story period content.

C. *Use of expositions to help understand and appreciate the work of the teacher and other persons with whom the child interacts directly.* An example of this type of material is a leaflet entitled "The Work of the Teacher." This is a simplified discussion contrasting the conception of the teacher as "someone whose main job is to check up on you" with the conception of "a guide to help you learn." This material is designed to be read by the teacher to the class and talked over with them. The logical implications of the "guide to help you" concept are described, including what alternatives are available to the child and their respective probable consequences when he finds his learning experiences not challenging. Included also is a discussion of how it may help the teacher to "tell her when something is worrying you."

The purpose of the material is to help the child gain some understanding of the behavior of the teacher, her feelings, and her methods. It is also designed to help the child begin learning that he has a part in arranging his social environment.

Similar material has been prepared to help the child gain some appreciation of the work of parents and other adults in his social environment.

2. Examples of experiences at the intermediate level

A. *The behavior of the teacher.* Since pupils at the intermediate levels can read syllabi, work sheets and other material to be read by pupils can be prepared. However, at this level as at the primary level, the pupil also learns from what he observes of the behavior of the teacher in the daily interactions with the class. Hence, it is recognized in the integrated program that the teacher's daily behavior is an important part of the learning experience at the intermediate level as well as at the primary level, and the plan includes training of teachers at this level also in practicing the causal orientation. . . . In its full development, the integrated plan expects that all teachers will apply the principles of human development in their daily work in the classroom.

At this level there is also the opportunity to help the pupil take some responsibility for his own development. The discussion of the work of the teacher, referred to in the description of sample materials at the primary level, is extended to include a consideration of how the pupil can help to build up his cumulative record for the school, in what areas he can keep the teacher informed about his attitudes and feelings, and how he can apply what he is learning to his own behavior.

At this level also there is the possibility of using the room council as a laboratory in which the child can apply the causal orientation in a real life situation. Since in the integrated plan the subject matter areas of social studies, health, and reading incorporate material designed to enrich a pupil's conception of the dynamics of behavior, and since he is encouraged to apply the enriched conception to situations arising in the room council, it will be helpful to indicate how the subject matter areas make their contribution before describing the use of the room council in detail.

B. *Teaching causally-oriented social studies.* In elementary social studies each of the major topics can be developed in terms of the basic factors operating in the behavior of the people involved.

The following examples will illustrate this. As an introduction to 5th grade social studies, two teachers prepared the following introduction:

> I. Introduction to Fifth Grade Social Studies
>
> This year we are going to try to look at Social Studies in a little different way. In Social Studies we discuss problems about people. It will help us to understand these problems more fully if we know something about why people act as they do.
>
> This little booklet is to be used with your textbook in Social Studies to make it possible for you to learn more about the behavior of people and what the effects of their behavior are.
>
> We will want to find out how situations come about that cause people to act the way they do.
>
> 1. What are the needs the people are trying to satisfy?
> 2. What methods are they using to work out their feelings?
> 3. What are the effects on other people as a result of the methods chosen to work out those needs or feelings?
> 4. What might happen if other methods were used?

These questions are then developed in the discussion of historical events in subsequent units.

ATTITUDES OF PARTICIPATING TEACHERS

Our program brings up two groups of questions. The first group relates to procedures: How does the plan work? What is the attitude of the teacher toward it? Can teachers be interested in cooperating in such an enterprise? Do the teachers resist training in mental health principles?

Thus far, we have worked with primary, intermediate, and secondary school teachers. At the present writing, we have a group of 15 primary, 15 intermediate, 11 secondary teachers, and 3 counselors drawn from three school systems. They have participated in the summer program and have helped to revise various aspects of the curriculum to develop in the child a sensitivity to the causes and consequences of behavior. For instance, instead of being content with the usual textbook statement that, unlike boundaries between many European countries, the United States-Canadian border has never been fortified, they prepared a discussion, based on available studies of conflict and cooperation, on some of the probable underlying factors in producing the United States-Canadian relationships. The counselors have helped the secondary teachers extend their knowledge of the children in their classes.

The fact that we have had more requests for inclusion in the program than we can accommodate indicates that the teachers on the whole have a positive attitude toward it. Those who have been accepted have cooperated enthusiastically. . . .

Can a teacher help children in elementary and secondary schools take a more understandable approach to social situations? If so, what effect does this have on the children? Does it make them more, or less, secure? More, or less, able to develop satisfying relations with others? We have evidence that significant changes have been produced throughout the primary and intermediate grades. . . .

A typical example may be found in some of the data obtained from our experiments with the 4th, 5th, and 6th grades. At each level a causally-trained teacher was matched with a teacher without such training from a nearby school, who served as a control. The matching was according to sex, age, training, and years of experience. Similarly, the children in the respective classes were equated as to intelligence. The experimental group was like the control group except that the control teacher did not participate in the summer training program and did not use causally-oriented curricular materials.

At the beginning of the school year all the children were given two causal-orientation tests. In one of the tests, the child was presented with a series of social situations to which he was asked to suggest a solution. The possible reactions ranged from arbitrary, judgmental, and punitive, such as: "It serves him right—he should be made to stay in"; to an awareness of possible complexity, such as: "The teacher should find out more about this."

In the second test, another series of social situations was presented, each followed by a series of statements with which the pupil was asked to indicate agreement or disagreement. Some examples are: "It wouldn't make much difference what method the teacher used to make him stop (bothering others) so long as he stopped bothering others." "Since these boys do the same things (described in the situation) they are probably all alike in most ways." "If another boy disobeyed his father the same way, his reason would be the same as Jack's."

The children were given tests again in the spring and the results of the experimental and control classes compared. In all grades a statistically significant change appeared in the experimental group but not in the control group.

Thus it appears that our laboratory, which consists of a teacher trained to be sensitive to the dynamics of behavior and to demonstrate this sensitivity in the daily living in the classroom and using a curriculum which incorporates these principles, is producing a degree of causal orientation among children.

Does the new orientation help causally-oriented children make more satisfying adjustments to their environment? We have various kinds of data to throw light on this question. For example, children from both the experimental and control groups were given the anti-democratic tendency scale test developed by Gough, Harris, Martin, and Edwards. This is essentially a measure of authoritarianism.

A detailed analysis of the results obtained from the experimental and control groups showed a significant difference between the two groups on both scales. The causally-oriented children showed significantly less authoritarianism. It thus appears that as children become more aware of the dynamic complexities of human motivation and behavior, their attitudes toward others begin to change from an authoritarian relationship to a more democratic relationship. In all of the analyses the effects of intelligence were eliminated by various statistical procedures. . . .

Group Discussion as Educational Process

Rudolf Dreikurs[7]

The following article is an example of the kind of help a regular classroom teacher can extend to children who present behavior problems in school. The teacher, through a series of group discussions, helps five seventh-grade boys to a better understanding of the purposes behind their troublesome behavior and subsequently to better solutions to their problems. As you read this selection, consider the differences in approach to behavior as expressed by Ojemann and Dreikurs. Toward which approach do you feel most sympathetic?

The following example is taken from the notes of a teacher who experimented with a series of group discussions.

The five boys of this experiment were selected by their home-room teacher on the basis of poorest adjustment. They were all over-age for seventh grade, and were in a so-called special, or low learners, group. Four of the boys were troublesome behavior problems in all their classes. One, Roy, was not a behavior problem, but refused to put forth any effort to do his work in most classes.

The boys were told by the principal that they would have an opportunity to talk over their problems and learn more about themselves. If they chose they could give up two study periods a week for this purpose.

The teacher meeting with the group was also their teacher in one subject. The group met for three weeks near the close of the school year twice a week for approximately forty minutes, and had one concluding period during the fourth week. There were seven meetings in all, held in an empty room next door to the teacher's classroom to give the idea that these meetings were different from a class. Chair desks were arranged in a circle.

The discussions were written up by the teacher as soon after the meeting as possible to retain the "feel" of the sessions as well as some accuracy in recording; the recordings were used by the teacher as review material and to determine the starting place for the next session.

Comment: These discussions were set up as a special project and, therefore, have aspects of group counseling. Adjustment teachers, guidance counselors, and the classroom teacher should eventually be trained to conduct similar discussions with the same effect, as part of the regular curriculum. It is obvious that such regular discussion periods cannot be classified as "therapeutic." Although the methods used may resemble closely those used in group therapy, the procedure is unquestionably an educational process.

First session: Harry explained the purpose of the meetings to Roy who had been absent yesterday when the principal told the boys about the plan. I told them we would be like a small group of close friends who could say to each other what they wished. They might express their wishes as to this room and the sessions. It would be different from a class because there were fewer boys and there was no need to finish an assignment. Nothing they said would be repeated to other teachers without their permission.

Comment: That was a good way to establish the atmosphere. . . .

The boys were asked to tell about their families so that they might become better acquainted and I could know them better.

Comment: That is an excellent start, provided the teacher is trained in understanding the family constellation and the significance of interpersonal relationships within the family.

---

[7] from Psychology in the Classroom (New York: Harper & Brothers, 1957), pp. 162-183. Reprinted by permission of the publisher.

Harry is the oldest of three, has a sister of 12 and a baby brother. In contrast, Ernie is the youngest of six with two older brothers and three older sisters. Two sisters live at home and work; all others are married. Roy is the sixth of eight. He has a younger brother who is also in seventh grade. One brother, a year older, is considered a nonreader, and Roy is nearly so. Hugo is the youngest of three. One brother is in college, and one brother plays on our school basketball team and was recently elected vice-president of the ninth-grade class. Randy was absent at this first meeting.

Comment: Let us see what detail of this limited information is significant. Actually, each piece of information has considerable meaning, if properly evaluated. Harry is perhaps less influenced by his position as the oldest of the family than is Ernie as the youngest of so many much older ones. Roy's younger brother has already caught up with him, being in the same grade. This probably is significant. Most revealing, however, is the situation of Hugo who is not only the youngest of three boys but has two older brothers who are apparently highly successful, particularly the one just ahead of him. This is a difficult position to be in.

They told a little about their families. Hugo sometimes feels like running away. Harry agreed. Hugo's father uses a strap on him, but not so much any more. Sometimes he has to stay in. Staying in was a usual punishment also for the others. Harry said about his father, "When he gets mad, he really gets mad."

The boys were asked what they liked best about junior high and what least. They liked having different teachers during the day and disliked most having a teacher nagging at them.

Comment: It would be possible to regard these questions about their families and about their reaction to school as part of a warming-up process. However, they were raised in a rather abrupt way, the teacher suggesting one subject after the other. Maybe this was necessary with this group of boys. It generally is advisable to ask the children what they want to talk about first. Only if they are not sufficiently productive should one suggest a subject. That may have happened here, too, without the teacher's reporting it.

I asked them what gave them a good feeling. Hugo said when he played ball; Harry, when he had his cast taken off after wearing it from his neck to his waist. I suggested that this made him feel free. He said, "Ya, free!" Roy and Ernie felt best while swimming or fishing.

We talked a little more about families, and then Hugo switched to the subject of dead bodies in coffins. We discussed dead bodies for about five minutes until the bell rang.

Comment: The boys finally took over and talked about what *they* wanted. Hugo, on this occasion, established himself as a leader. And the teacher was right in following this lead.

As a whole, this was a good warming-up session. All participated, and some initiative was evoked. . . .

Second session—next day: Randy, absent yesterday, was present. Harry gave an accurate summary of yesterday's discussion. Ernie said, "Then we ended with dead bodies."

Comment: It would be interesting to know why Harry gave the initial explanation at each session. Did he volunteer or was he asked to do so? He certainly exerted leadership of a constructive kind. We can see that the spontaneous part of yesterday's discussion provided considerable delight to some. Apparently Harry, concerned with the constructive aspects, omitted what interested Ernie and Hugo, who have brought up the problem. . . .

I reviewed the idea of freedom in this discussion. Randy introduced himself as the youngest in the family of four, one sister married, the other two in college but living at home.

Comment: This is also an important piece of information, the only boy among so many women, and—to make it worse—the baby. He probably had many "mothers," some of whom might have spoiled and overprotected him.

The boys were asked to tell their earliest memories. Harry told of having a tricycle when he was only three or four. His sister was just born then and the bike was his "best friend."

Comment: The teacher evidently did not give an interpretation at this point, although, being trained, she probably knew the significance of this recollection. Here was Harry, the oldest, being dethroned by his sister and feeling pushed out. The only friend that remained was his tricycle. He was now on his own, being left out by the family.

Hugo remembered running away from his aunt, with whom he stayed when his mother went away. Randy remembered riding a bike and a little auto which belonged to a neighbor. Ernie remembered being brought back from several blocks away, where he had wandered in his sleep. . . .

Roy remembered when his family lived in a small town; the boys would hit turtles on the head, and the Indians would get mad at them.

Comment: For Roy the world seems to be a free-for-all. This is the information which the teacher has solicited so far. Now she is beginning to discuss it with the boys.

I suggested that we start talking about Harry, if he didn't mind. He enjoyed being free of his cast, riding his bike as a little boy. What did that tell about him? They said he wants to be free, independent, on his own, his own boss. Randy commented, "He likes to be the boss."

Harry: "Aw, not all the time." We talked about wanting independence; was it bad? No, all grown-ups want to be independent. Harry, "I don't quite agree with you, because when I boss my sister she doesn't do it anyway." I asked, "Why not?" He immediately answered that she wants to be her own boss too.

Randy: "You know the thing that I hate, it's being alone. I like camp—a group of fellows." I asked, "No girls?" He, "Yah-a-a. But if the director makes me do something alone, I hate it. You know, when you make me sit all by myself in class, that's worse than being paddled."

Comment: The teacher missed an opportunity to make an important point clear to the boys. Why did Harry want to be independent and Randy hate to be alone? Because Harry was the first dethroned boy who did not feel that he could rely any longer on any one, and Randy was the baby who got his place only through others, relying entirely on his mother and/or one of his sisters. But in general the discussion was well conducted. It evoked participation and interest.

We talked a little about how all of us like to be noticed. Harry said, "Mr. —— [the principal] said I do, but I don't. If he would put me in a room by myself, I'd tell him I'd like it, and I would."

I asked, "For what purpose would you tell him that?" He didn't know, but Ernie commented, "He is trying to be bigger than Mr. ——." I asked Harry what he thought about it. He coughed out, "I want to be the boss, I guess." I: "That came out hard, didn't it?" And I praised him a lot for being such a good sport as to let the group talk about him today.

Comment: This is a nice example of an impressive discussion. The crucial step was the question about the purpose of telling off the principal. And Ernie helped to clarify the issue which Harry could finally see himself.

In the meantime, Hugo was poking Roy. I commented, "We have someone right now showing us how hard it is to be forgotten. Who do you think it is, Hugo?" He said, "Ernie." The other boys grinned. Then he looked behind him. We all agreed it was a kid in a yellow sweat shirt (Hugo wore one). I said, "Yes, he tried a little trick, and I fell for it. How did I fall for it?" They said, "You talked to him just now."

Comment: One can see how clever the boys are in sizing up purposive behavior, particularly when the teacher gives them a hint. This example shows how one can direct the children toward important conclusions. . . .

Third session—one week later: The boys seemed restless at first, and Hugo entertained us with his yoyo for a few minutes. It stuck and we laughed at him—and they settled down. . . .

I asked what they remembered from last time. Harry couldn't remember anything at first, but Randy and Hugo remembered talking about Harry wanting to be the boss and feeling free. Then Harry remembered about being free from his cast.

Comment: Isn't it interesting that Harry who had always recapitulated the previous discussions, suddenly did not remember what had happened when he and his problems were being discussed? This is a frequent occurrence in therapy. Does this first lacking and then obviously limited recollection indicate that Harry did not benefit from the previous discussion and explanation? Not at all, only it takes a certain time before insights like those provided by the discussion can be fully integrated and applied.

I continued by pointing out that we had talked about someone who was the oldest in the family, and now we could talk about those who were the youngest. Hugo pointed at Ernie. Ernie, Randy, and Hugo are all youngest in their families. They were asked how it felt to be the youngest. Harry and Roy had younger brothers and sisters and they, too, would know something about it. . . .

Randy was anxious to talk. He said "Older sisters always make you do things, and people say, 'He is the baby of the family.' How I hate that!" Ernie agreed. Hugo said, "You get more privileges. Your mother takes you along and the others have to stay home because it seems like your ma likes you, cause you're littler." Harry thought the littlest one got more things at Christmas and didn't have to give things. "When you're big, you have to buy things out of your money and you don't know if you are going to get anything or not."

Comment: The teacher did not take full advantage of an important fact which revealed itself at this point: Randy saw only the disadvantages in being the youngest and Harry only the advantages; neither was willing to see the benefits of his own position in the family. Only Hugo was aware of his favorable position—and probably took full advantage of it. The boys may have seen how each was inclined to regard the position of the others in the family as more beneficial. Such impressions can only be gained in a group discussion where various members of the group are in different positions and can, so to say, compare notes.

I asked the boys whether they preferred being treated as big or little. All wanted to be big, of course. "How do you show you want to be big? What do boys do to show they want to be grown up?" Hugo said by wearing engineer boots, Randy, by wearing your pants real low, pulling them down. He got up and demonstrated. Hugo suggested also by wising off sometimes. Harry commented, "You try to make people mad."

I asked, "Why does that make you feel good?" Hugo likes to make Miss —— mad; she looks so funny. We discussed how it makes us feel bigger and stronger if other people get mad at us. Randy added, "You can fight a kid and win and feel bigger." Harry: "Clothes can do it, too, like —— [the name of another boy]. He takes junior sizes. I went to buy a belt with him. He acts big, but his belt is so little. I can tease him now about being junior."

I asked if you had to win a fight to feel big. Hugo said, "No, if the kid is bigger than you and you lose, but you fight good for your size, you still feel good." Then Randy reported that Hugo tried to be big Sunday, Monday, and Tuesday. "Oh, how?" He grinned and said, "Oh, I can't say now."

I said, "You can say anything here, you know. Do you mind, Hugo, if he tells?" He shook his head, and Randy said, "He ran away." Hugo quickly added, "I did it for fun. They had detectives and everything." I asked him to tell us a little about it. He told how his mother came to get him at the quarry where he was forbidden to swim. She threatened him with Pa, "Wait till he gets home—you'll get it." He waited around a while, but his father didn't come home, so he went out on his bike with another kid. They got a traffic ticket for riding double. That made him madder. "I got to thinking about what they'd do at home, so I thought if I don't go home for a while, they'll sort of not do so much. So I stayed at Ralph ——'s; nobody but a couple of kids knew where I was—Roy here and Pat."

I asked how it worked out, if he got the fun and attention he wanted; he said, "Ya, when I came back kids asked whether I had fun and I said, sure. But it wasn't so much fun 'cause I was alone so much." The group talked a little about liking to be with the gang again. I asked if Hugo was acting grown up or like a baby running away. Randy said, "grown up," but Roy said, "baby." He added when I asked him why he thought so, "because he was afraid." "Aren't grown-ups ever afraid?" Roy, "Ya, but he ran away instead of staying and taking it."

While we talked Hugo was breaking off a piece of candy and eating it. At Roy's answer he almost rolled himself into a ball halfway under the desk. I praised Hugo for being a good sport to let us talk about him.

Comment: One may ask what the benefit of such a discussion could be. It is all centered around the question of how one can feel big. And taking this desire as a yardstick for evaluating behavior, particularly antisocial behavior, is important. It removes the moralistic evaluation of behavior to which boys of this type are more than accustomed and immunized. In this way they gain an understanding of their motivation. And it is then inevitable that the question comes up which Roy raised on this occasion, namely, whether one is really as big as one thinks. As soon as the discussion is focused on motivation, the door opens for reconsideration. The child may discover that he actually did not accomplish what he thought he did, and further he may consider better and more adequate ways of accomplishing what he wants, being big, important, or whatever the case may be. Moralistic preaching and condemnation cannot have any such results. The child knows that he is doing something wrong, but he does not care, or he does not know what else to do to gain his ends. . . .

The group talked a little more about running away. Harry said his father had done it too, so there would be one less mouth to feed. It wasn't really a bad thing to do—sometimes boys or girls did it to get even with their parents for something. I suggested that for tomorrow, our next session, we could think of some way to show parents and teachers that we wanted to be grown up. Randy injected, "Like acting your age—not too grown up, not too babyish."

Comment: It is not a bad idea to suggest a subject for next time. Such suggestions are not commands, and do not stifle spontaneity.

Fourth session—the following day: I asked the boys to review what we talked about yesterday. Hugo: "We talked about me and why I ran away and being a baby. Say, why does everybody, like the detectives, ask you so many questions when you run away?" Randy explained that they did it to try to help him. I asked whether I had scolded Hugo yesterday. Randy: "Well, a little." The others shook their heads and Harry said, "No, only explained so he'd know why he did things." I followed up: "You mean explaining that running away and hiding out are ways of getting attention or, perhaps, of showing other people that we want to be the boss, or maybe we want to get even with someone? What else do you do to keep from doing what other people want you to do, to have your own way?"

Harry: "I get sick—a headache, things like that, when I don't want to come to school. I never get a headache when I am going to have some fun." Hugo: "You can bribe people. My brother tries to bribe me into doing dishes, but I don't fall for it." I asked, "Randy, when your sisters tell you to do something, do you show them that they can't make you do it, and how?" Randy came back immediately: "I don't listen." Ernie, Roy, and Hugo all agreed that not listening was a good way.

Ernie said, "You can play dumb, too." "For what purpose do people play dumb?" Harry and Ernie both felt that then people don't expect you to do anything—"like Dorothy." (Dorothy is by far the slowest pupil in the home-room group.)

Comment: Now the discussion is really under way, dealing with important psychodynamic mechanisms. The boys express themselves well and frankly. Note Ernie's comment that playing dumb is a way of getting out of things. (Ernie is the youngest of a large family, and apparently played dumb also during the previous discussions by not participating. This could be pointed out to him.) Note also how the boys begin to recognize the mechanisms discussed in other children, an excellent way to gain insight into oneself. . . .

At this point I said, "I've been wanting to tell you boys how well I think you have done in these discussions. You have shown really good thinking. I think we are about ready to see if we can make some of these things pay off. You boys are intelligent fellows. You have been wanting attention, and you have been wanting to show others how strong and grown up you are. You had some little tricks worked out for yourselves that you have been using for a long time; but these tricks got you into trouble because they were bothersome to other people. Now that you know more about what you've been doing, I am going to make an assignment for our next discussion, a week from yesterday."

Ernie: "Do we have to write out something?" "No, I'd like you to put those good minds of yours to work, to see if you can do exactly what you have been doing, but figure out a way that will be acceptable, that people will like instead of dislike. Would you be willing to try?" They all would like to, but, "What do we do?" I continued, "Pick one place either at home or at school to practice, maybe one class to start with; go on showing your power or your ability to get attention, whichever you want, but in an acceptable way. Where do you want to begin?"

Harry: "I'd like to show Miss D how grown up I am." Randy would like to try it in Miss M's room, "I could be grown up there." Ernie also chose Miss M's room, "I'll work there." Hugo said he would try to get attention in Miss D's room, "but I'll get it in a good way." Roy didn't know.

The bell rang and we stopped without enough definite help to the boys. I kept Roy a minute because he felt discouraged and I tried to give him a little buildup.

Comment: This suggestion to the boys to put their purpose to some useful end was rather daring, at least at this point. The teacher was right, the boys began to understand. And she certainly put it on pretty thick in appealing to their intelligence to find ways and means toward useful expresssions of their purposes. Nevertheless, the question arises whether this procedure did not present premature pressure. It takes considerable courage and self-confidence to abandon the easy destructive methods and venture into useful activities.

Fifth session—a week later: Roy was absent from school. Harry and Ernie had been suspended from school for cutting music class yesterday; at that time it was discovered that this was not the first time this had happened. Harry had not yet returned.

I asked the boys to report on how they got along with their assignments of improving in one class since last week. Randy reported that he had been out of math class last week but had seen Miss M on Friday and been allowed to come back—and for two days she hadn't hollered at him once.

Hugo started talking about a squirrel he'd hit with a stone. Ernie reported that on Friday Miss M had said something to him once, and that was all, and after class she told him and Harry that she had enjoyed them in class that day. He added, "I showed her I was grown up." Hugo began to tell us about hiding out with other boys in a woodpile where they "even had a mattress." Other boys knew about it now, so they are going to dig a four-foot hole for an entrance. "Then the other guys will never find us."

I asked if Hugo was lazy. They all said, "No, he works real hard at that stuff." "Is he fun to know and to talk to?" "Oh yes, he's fun."

"Well, Hugo, how did you make out with your assignment?" "I forgot." "Why did you forget? Was it convenient to forget?" Randy came in, "I know. Miss D biffed him with a book." I asked Hugo to tell us all about it. Hugo said he'd had a pin in the eraser of his pencil, just for fun, but Randy thought he poked him with the pin. But he didn't. It was just the point of the pencil. Randy squawked, and when he wouldn't give up the pin, Miss D biffed him.

"For what purpose did you poke Randy?" "Just to have some fun." I repeated the question for what purpose Hugo poked Randy. At this point, Hugo put down his head and said, "To get attention, I guess." "Did you succeed? Did your trick work?" "Ya; Randy squawked." "Did Miss D consider you grown up or a baby?" Ernie: "A baby, because she hit him." "You mean sometimes you spank babies, but we don't hit grownups?" Hugo: "Oh yes, cops use their clubs on a guy if he is stewed." "Is a guy who is stewed really grown up or more like a baby?" Randy: "He staggers all over like he's learning to walk. You can't talk to him. He is like a baby."

Randy told of a boy at camp who always acted and talked like a baby. Hugo said aside to him, "Did you like him?" When I asked what he had said, Hugo answered, "Never mind. Why are girls grown up at 16 and boys aren't? Girls even look big and grown up then." . . .

We talked about different growth rates of boys and girls, and how boys catch up and pass girls after 16. They told of older boys who were tall and strong now, but who used to be little. Randy said he sometimes felt real strong, and gave examples.

Hugo broke up this trend again by asking, "What about playing with blocks when you are all alone, and making funny noises with little cars?" We talked about how sometimes all boys, even after they have grown up, felt a little babyish, and that there was no harm in it when it didn't bother others.

We talked a little more about what Hugo could do in English class to get attention in an acceptable way. He suggested he could tell Miss D about how he plays on a major baseball team. "I'm not the best player, but one of the best." "What else?" "I could do my work."

Comment: It is pathetic how important Hugo wants to be, and how he has to play with his blocks, or with little cars, when he is alone.

We talked about that and they all felt that they had to have attention all the time. I explained to them that they were good kids to know, even if nobody showed them so by paying attention to them. Hugo immediately replied, "I could go in and just be myself." Asked to explain what he meant he said, "Not a baby, not a big shot."

It is remarkable how the boy caught on. Although at this point his verbal expression may not have reflected deep understanding, without some insight Hugo could not have found such an adequate formulation of his basic problem, namely, that he had not been just himself, but could be. So far he had been a baby wanting to be a big shot.

I asked Ernie to tell us how he felt when he cut music class. "Free and good." Randy said, "Like big shots. I almost went with him, but I didn't this time. You hear kids saying they never go to math class or something, so you want to try it too."

"For what purpose do kids cut classes?" "To show they can't make you stay in school."

We talked a little about why some boys don't like music. "Their voices are funny, and they hate to sing in front of other kids." Randy commented, "They think it's sissy." We talked a little about men singers and men cooks often being better than women. Hugo said he liked to bake especially.

Comment: This again is a wonderful example of how dynamics can be explained to children when the *purpose* of behavior is explored. It also shows how well and easily the children can catch on. Then one can discuss the implications in a beneficial way, leading to verbalizations from which the children can profit. . . .

Sixth session—the following day: Roy was still absent. I asked the boys to tell Harry what we talked about yesterday. Ernie said we checked up on how we got along on our assignments from last week. Harry reported that his was all off. . . .

I asked Hugo if he remembered the suggestions we made to him, and he did pretty well, mentioning first that he could go into the English class and be himself. I asked Harry if he could tell us how he got along with his assignment. He started with a story of skipping music class, which he told in great detail. After being suspended he had gone to tell Miss —— that he wouldn't be in English class, and she said "Good!"—at least that is what he interpreted her as saying. He acted as if he were badly hurt by that. That's why he was angry at her, and why he said his assignment was all off. He concluded with, "Now *she* can make the first move."

I asked for what purpose people say that, and Randy answered, "To put the blame on someone else." Harry suggested, "To show your strength," but he wouldn't discuss it any further.

Comment: The psychological discussion is now in full swing. The full significance and benefit of injecting the question of the purpose whenever a behavior pattern is up for discussion should be obvious by now. . . .

We finally compromised on one more meeting, after some discussion. I asked them whether they wanted to keep the same assignments. They did, but Harry remarked, "Well, I'll keep mine, and I'll try a little bit, but not very hard." Harry was hard to reach today, but Hugo seemed especially receptive.

Seventh session—one week later: We checked up first on how well they got along with their attempts to be grown up in classes they had chosen. They all told of not having to be scolded. Hugo said, "I asked Miss —— for some help, but I didn't bother anybody."

Since this was our last meeting, I asked them if there were any questions they wanted to clear up before we stopped. Harry said, "How about this idea of me? You said I want to show how strong I am. I don't get it." I asked what made us think that Harry possibly wanted to show his power. They answered quickly: "He is the oldest, he likes to be free, he likes to fight and to argue." Harry said, "O.K. O.K., I'd like to think about it." We agreed that that was all right to do. . . .

Randy wanted to know whether you could say that a fellow who bought a foreign make of motorcycle was doing that to get attention. We talked some more about why people like to have cars, motorcycles, unusual clothes, and so forth, but pointed out that just knowing one thing about a person is not sufficient to tell us about the kind of person he really is.

Comment: The last statement is important. While the teacher succeeded in making the boys aware of certain psychological dynamics, she had to curtail the temptation to interpret everything that anyone does without knowing much about it. Another safeguard which has to be impressed upon the boys—and just as much on the teachers and parents who study psychological dynamics—is the danger of using psychological terms freely and particularly in social contacts. Psychological interpretation is mischief if given outside of a period and place where a trained person is in charge of discussion or guidance.

The period ended here. The boys were jolly and friendly, and Harry suggested they should have had a little ice cream or something special "to end our secret club. Will we meet next year?" Then he added, "I wish I could bring Ned to our meetings." (Ned is an active boy in their homeroom group.) When I asked him why, he replied, "I think he needs this too. He acts like a big shot too, sometimes." (Was Harry thinking that if he changed his own behavior, someone else might become leader of his group?)

Comment: The teacher is right. And Harry also seems to have recognized in Ned some of the problems which he had himself. His coming around at the end suggests that the discussion at the beginning of the session was right for him.

The last day of school Harry, Randy, and Ernie came around to wish me a nice vacation. Randy said, "If I feel like running away next year, I'll come in and talk with you first." Harry said, "I still don't think I want to be the boss *all* the time," and grinned broadly. . . .

Certain objections are likely to be raised against training teachers for such psychological procedures. It may appear even more dangerous to encourage teachers who are not sufficiently trained to venture into discussions of this kind. This doubt is based on the assumption that much harm can be done by half-trained teachers and that a little knowledge is often worse than none. But is it really true that a teacher insufficiently trained in psychological methods can do more harm than one not at all acquainted with them? Can we assume that psychological discussions of this nature, even if they are conducted incorrectly, could do more harm than . . . recriminations, threats, and preaching which go on . . . in many classrooms?

There are, however, a few safeguards which may be observed by a teacher who is interested in this discussion method. As long as she uses common sense, as long as she induces the children to express themselves freely, and as long as her psychological interpretations consider possible *goals* and not *causes*, she is on safe ground. Some interpretations may be wrong, but they cannot do much harm. The beneficial effects in building morale, in providing a feeling of togetherness, and in giving the children a sense of being respected and having a voice, outweigh any possible harm.

For this reason, the average teacher can safely be encouraged to experiment with this kind of group discussions. It will take a great deal of training and experience to conduct such discussions in a professionally adequate way. But such a high standard is not necessary. The teacher who conducted the experiment reported here made many mistakes which a trained group therapist would avoid. Nevertheless she did an admirable job and helped the children considerably.

Group Life Space Interviewing in a Therapeutic Camp

William C. Morse and Edna R. Small[8]

There are many different patterns for conducting group discussions with children. The Dreikurs selection was an example of the use of the group process as an educational process rather than a therapeutic one. The following article reports an ongoing experiment with group life space interviewing in a therapeutic camp for emotionally disturbed preadolescent and adolescent boys. As you read this selection, try to distinguish the differences in goals and methods between the teacher-led group described by Dreikurs and the clinically-oriented groups described here.

The University of Michigan Fresh Air Camp serves some ninety emotionally disturbed boys, who range in age from 8 to 15. They are referred by treatment agencies for seven weeks of therapeutic camping. Cabins of six to eight boys with three adult counselors form the basic living and program unit. The counselors are advanced undergraduate and graduate students who are enrolled in supervised field work training. Clinical personnel from social work, psychology, sociology, education and pediatrics, with psychiatric consultation, are responsible for the design and conduct of the program. The mental hygiene orientation emphasizes the therapeutic potential of the camping activity program.

---

[8] from American Journal of Orthopsychiatry, Vol. 29, No. 1, Jan. 1959, pp. 27-44. Reprinted by permission of the publisher.

Such a therapeutic milieu involves the clinical handling of the inevitable behavior disturbances. The social interaction reflects the children's basic problems and consequently provides an important avenue for therapeutic work. A large proportion of the behavioral disturbances in a camp setting are embedded in group processes. For this reason, group life space interviews have been developed to deal with the group-involved problems. The present paper presents a pilot analysis of these reality-focused life space interviews with cabin groups.

The interviews were conducted by clinical staff members with considerable experience in this type of group work. The size of the group varies from three to nine: in addition the cabin counselors and caseworker may be present. The focus of the interview may be a minor problem, or a difficulty so intense that the very continuation of the group is threatened. Interviews are held as soon after a precipitating incident as possible, and last from half an hour to two hours, with the majority about an hour in length.

. . . Aggressive behavior, which may be against peers in general, against a particular scapegoat, or against the leader, is the most frequent cause. Limit breaking is a second general cause. While the camp has relatively few limits, safety measures and certain routines must be observed. Thus, some interviews are precipitated by dangerous waterfront or hiking behavior, excessive swearing, especially in community areas, resistance to meal or bedtime regulations, etc.

General social disintegration is another precipitating cause. Some cabins develop no cohesion or pattern. The members go off in many directions, follow no program design, and seem unrelated both to the leaders and to each other. The chaotic state which results from their frequent bickering, horseplay and fighting must be dealt with. Other sessions center around overt program problems that may be symptomatic of other difficulties. Some groups develop program apathy in which no activities seem useful to them, and they frequently just sit around doing "nothing" until trouble breaks out. Subgroups may try to exclude other cabin members from group activities or the cabin itself.

A somewhat different kind of session is precipitated by the acting out produced by underlying anxiety over sexual material. All types of sexual behavior may be represented in swearing, jokes, dances, fantasies about counselors, and actual participation in sexual acts. Groups with such anxiety become "high," with a gradual build-up of tension and disintegrative behavior. Anxiety over stealing or defiance to the leader may produce similar reactions.

Thus, a majority of the group sessions have a control issue involved, and these crisis sessions represent a major clinical tool used on a group level. Since camp is an open setting, and the clientele include very disturbed children, constant clinical monitoring is required.

During the seven weeks, there were 88 group sessions. Nineteen were taped, and in 8 others the leader dictated an interpretive summary. The following analysis is based upon this sample of 27 interviews.

Goals of the group interview

There are several goals for group interviews. The prime objective of maintaining an acceptable level of control and tolerable social action has considerable therapeutic import. To do less would be unhygienic for these children. The transference behavior to authority is made visible in the group sessions, through analysis of camper reactions to the counselors. We can frequently pick up the camper's feelings and illustrate meaningfully and repetitively the difference between the present authority's behavior and the behavior of the authorities the camper has known in the past.

Within these broad control-working-through dimensions, there are many specific objectives for the group sessions, a few of which will be mentioned:

1. In order to have more control over his own behavior, the child frequently needs help

in recognizing the group process in which he is involved.

2. The interaction in a group session not only gives the senior staff a picture of what is going on, but it also provides an opportunity to make hygienic use of clinical authority. The authority person can use the material which comes out without interfering with the counselor's less authoritarian role. The group leader may use other adults present in the session as alter egos when a direct confrontation would be too threatening. Oblique interpretations and controls can be made visible through discussing certain behavior with the other adults present.

3. The group interview provides the perceptive leader with a microcosm of the group operation. The degree to which the group carries the actual behavior for which the boys are brought together into the session is quite striking. The leader's initial rather passive, permissive role fosters this parallel presentation of behavior. For example, if the boys were hostile to the leader outside, they are usually quite open in their defiance in the session. If there was diffuse disintegration, this is demonstrated by their chaotic behavior in the session. If there was scapegoating, this is most likely to continue. We are thus able to present afresh a demonstration to us and to them of the problem behavior which the campers must examine. If necessary an intensity of interaction can be fostered which will replicate "hidden" behavior. By careful use of permissiveness, the group's emotional tensions break through defenses of provoking but controlled group members.

4. It is, of course, most pertinent to see how the children use the counselor. In some instances they will continually refer to him for justification of a position, perhaps trying to get the leader to defend a scapegoating situation. Or they may say that the leader doesn't know what is going on. The general affect the children show for the leader is of prime importance. This is very important material for later supervisory sessions with the counselor, a matter beyond the scope of the present paper.

5. The group interview provides an opportunity for concrete planning to meet the difficulties. In the last phase of the session, there is an attempt to develop some resolution of the conflict which brought the group into session. Resolutions range from planning by the leader to new goals asserted by the children themselves. These will be discussed in detail later. Here we want only to emphasize the importance of social visibility to what is planned. Words are not sufficient. . . .

STYLES OF GROUP INTERVIEWS

Before categorizing differences in over-all patterns which develop in group sessions, it is important to call attention to several conditions which must be taken into consideration:

1. Differences in pattern are not based upon the presence or absence of symptomatic aspects of the behavior. Behavior in a group session cannot be taken at face value. For example, one group may be engaged in mutual name calling but the tone is light and very little personal involvement results. Actually, it takes the form of a hilarious contest. In contrast, another group may call names, even less derogatory ones, but with each name goes a charge of hate. In this group, the name calling is the carrier of strong aggression and taunting. Superficially, both groups might sound much alike, but the underlying tone is quite different.

2. The group interview has to be evaluated in the context of the over-all group interaction. Groups have different norms relative to conflict, disruption, etc. Thus, each group interview has to be seen imposed on the "normal" range for that particular group.

3. The dominant group pattern tends to absorb individual divergencies. Pure patterns are, of course, a rarity. Some group sessions are dominated by a particular mood; others are mixed, or patchy. While this constitutes a problem research-wise, a far more serious clinical problem is involved in the impact of group pattern on an individual child whose response tendency may be divergent to that developed by the group. Our data indicate that the group mood engulfs most divergencies. For example, anxious delinquents in a traditionally delinquent group tend to be overrun by the hostile enjoyment of the others. In the same way, a majority group reaction of expressed antagonism

to the total camp situation may spread through the total group, even swamping members who dread leaving camp. The same principle of absorption can be seen in the contagion of silly, giggling acting-out to the more controlled group members. At the other extreme, a child with no appreciable concern for others has sat through a deep session untouched. The evidence gathered in group interviews on these individual struggles is vital in milieu therapy.

It is our present conception that the different styles in these group interviews may be cues to the type of therapeutic assistance that a particular group needs.

To study differential processes in group life space interviews, we have established five categories, keeping in mind the limitations described above. The five categories are as follows: *systematized antisocial behavior; symptomatic compliance; interpretive acceptance; spontaneous therapeutic interaction* (spontaneous production of dynamic material); and *unclassified* (mixed or no dominant pattern).

The systematized antisocial behavior group interview

The mood of some group sessions can best be understood as one of happy delinquency, or satisfied antisocial behavior. In these sessions, such groups illustrate a contentment with their way of life, and resist any arousal of anxiety. This is not to say that there is no anxiety deep in the personality, for certainly these children are not all psychopaths. Many times they show capacity to relate, in their own peculiar way, to leaders who embody both strength and understanding. However, the tone of these sessions is hostility to adults and society in general. When material is produced, it is done as an act of bragging, with no show of guilt. There is a real pleasure in delinquent behavior.

The following is an excerpt from a recording of a 2½-hour crisis session of this kind.

The session was called after some of the cabin members had urinated on the counselor's bed. More than an hour later, they are still denying any responsibility, and hilariously ridiculing the counselor. Here J, the cabin clown-scapegoat, is the vocal member, the others quietly holding their tongues. J finally gleefully and falsely admits responsibility, to try to end the meeting:

J: I don't like these round table discussions.

M: I'm getting sick and tired of it. The counselor is enjoying this.

J: Sorry, Counselor, but we gonna have a diaper on you. We know you did it.

E: That's enough, let's get outa here.

J: Come on, Counselor, admit it; didn't you pee the bed? Because I'm getting tired of staying up here. What are you looking at me for? That's one thing I hate, somebody staring like I did a crime.

Others: You did! (Laugh.)

J: Very funny, but it so happens you weren't there. Come on you guys, let's get outa here.

M: If you'd stop throwing the hat up and down maybe . . . (All laugh.)

J: O.K., I confess. I wet the counselor's bed. Now can we go? I wet his bed, didn't I?

In another session with this cabin, the group mood was uncooperative and defiant. There was a lot of hilarious and contagious laughter. Any attempt to organize a process was interrupted by laughing and joking. If any member began creative work it was "fouled" by an interruption or some joke or profane remark. Two members were silent throughout the interview. The group developed some content around the idea that they were in camp because they had been caught; that is, that they had been sent here, as they said, against their wishes. This led to "escape" talk, belied by their actual behavior, since they could run from the camp easily. Then followed a series of antagonistic remarks toward the counselor, who they said watched them too closely.

It appeared that underneath all this deceptive behavior they did realize that they were acting beyond the limits and that something would have to be done about it. They used delinquent gang terminology. After talking about their delinquent gang behavior and using such terms as "Let's cut out of here," "Mow 'em down," and so on, they began a discussion of "Playing the dozzens." One boy then claimed he wanted to go home. This brought out the fact that several of the boys had been threatened by the detention home if they failed at camp, but any real tension was covered over with a lot of bravado.

The next phase was the discussion of other campers they knew who had been at camp. Then they discussed the subsequent histories of some of the former campers who are now in prison or vocational school. This started their discussing with a great deal of delight and an almost tense attitude how many D's and E's they had had in school, how many cars they had stolen, and how many "B and E's" (breaking and entering) they had on their records. This was followed by a general discussion of what they would do if someone tried to send them to the state vocational school. They were willing to go to another private, well-known institution; in fact this is the place they thought would help them solve their problems. They rehearsed all the institutional placements, and picked out the more emotionally disturbed individuals as logically going to mental hospitals. Then J began to brag about the things he had stolen, and M talked about being in the "D.H." (detention home) because of personal and family trouble. They did not really give any personalized material nor did they give any emotionalized feeling. They merely discussed, in an abstract bragging way, their own misdeeds. After discussing their delinquent behavior, with all identifying to some degree with this except the two neurotic boys, one member said, "You all talk big, but you wouldn't do nothing if the law came after you."

After the production of this material, the leader structured the limits again. There was a recognition of the need for restraint but no personal acceptance of what they had done as unacceptable. It is interesting that there was discussion, after the adults had supposedly left, about what a jam they were in and how they hoped they would have another chance. This was very serious and reality oriented but it certainly had no quality of personal abreaction or personal feeling. Such a group is very much oriented to reality. Even as the boys talk of their difficulties, they wager their chances of survival.

The tone of these group sessions is organized defiance, unmoved by guilt. The boys respond to controls which authorities enforce by moving away from the verbalized limit to another area, which has not yet been listed on the "index." Their skills at diversion, hiding what they do and denying acts which are brought out, all operate to thwart the effort toward change.

To the outsider, these sessions look more like battles than therapy. The leader must have unlimited patience and persistence. After a few such sessions, a group will get down to business sooner, and they may even request these interviews which seem somehow, little by little, to codify and organize bits of ethic to which they are being exposed. In spite of all of these signs of "nonmovement," we feel group sessions with these boys are very useful. They make possible the underlining of pattern and the reinforcement of limits. Such groups will not be curbed by anyone except the highest authority. They continue to push through the hierarchy until they hit the top. The language, defiance, and sexual talk are harsh. The leader role is stringent. They bargain, cajole, "weasel" and yet must be held in. We do not expect "change" in the usual sense from these sessions, but they permit a special kind of adult-child relationship to be developed; they give opportunity for nonhostile adult restrictions; they clarify limits; they point out consequences. They have to be repeated; each time the same process recurs though the content may differ. Adequate cabin counselor leadership combined with skillful group interviews constitutes a significant channel for socializing such youngsters. When these boys are treated in a milieu which offers maximum gratification, the gradual identification with legitimate social values can begin.

The symptomatic compliance type of group interview

The pattern of many group interviews is quite different from the cold war described above, although it never goes beyond the symptomatic level. Here the reactions are essentially ambivalent, with considerable defensiveness combined with some recognition of legitimate social values. One might say these children give the impression of being unhappy in their misbehavior. They enjoy the impulse satisfaction, but they also have doubts about it as a way of life. Essentially they have a recognition of accepted ethics but not the ego strength to behave in accordance with these values. Group sessions with such cabins produce a very fascinating emotional climate. The bombast which takes place is quite different from that of the systematized antisocial ideology described above.

When this type of group interview approaches evidence of undesirable behavior, the consequence is evasion by every possible mechanism. The denial serves the purpose of protecting the self, not of confusing the adult. While defiant groups are principally concerned with avoiding incrimination with adults, in symptomatic-compliant groups the problem is how they look to themselves. They do not show the brutality of the unsocialized. Rather, there seems to be the wish not to be identified with unacceptable behavior. There will be denials and accusations. There will be excuses and rationalizations. As the group leader works through this verbal debris, the tensions which develop seem to be directly related to underlying guilt about one's own behavior, rather than to the enjoyment of hostility for its own sake.

This style of group interview characteristically moves into a peculiar type of "solution," if it can be called a solution. When the evidence is out, and the defenses have been examined, the resolution phase indicates a self-assumption that the limit breaking will stop. Apparently, these children have learned very well that the thing to do if the case against you is clear is to reform verbally. It is easy to say, "I'll stop swearing," "I won't fight any more," "I'll quit throwing food," "I won't give the counselor a hard time." But such a comment is not just the offhand remark to avoid pressure toward correction which is common in the antisocial group. It is more like an attempt at self-hypnosis. There is a need to believe oneself. Any queries as to why it will be different meet staunch replies, "It just will." No relationship to the adult has taken place; no mutual identification of members has developed. There is a general tendency for these boys to say, in their more private expressive moments, that no one can help them.

They face the new world with a brave statement of how they will be. There is no willingness to listen to interpretations or consider causes. The façade is not to be tampered with. They can do it if they *want* to. Yesterday, they didn't really want to; today they do. They are ready to go.

Perhaps two such group interviews might be called for in a cabin group, but the persistence of such a pattern indicates impending failure. The boys have learned to make verbal statements. Adults may have encouraged or forced such statements. The verbalisms are not accompanied by any appropriate action; the child clings to a bankrupt institution. To admit he will not be successful is to say he needs help. So the game of charades continues, unabated.

The group leader faces a dilemma. With no movement, the behavior will continue and unsatisfactory social relationships will be on the increase until the group disintegrates and satisfactions are minimal. The tacit agreement which the child feels, if the group leader goes along with this, is certainly a retarding force. Something has to be done to break up such a sequence, and done before this pattern becomes the prevailing group climate. For under the glib statements can be seen despair, the loss of belief that things can be better. Such children frequently ask for an evaluation, "How much better is it today?" After a session or two of this type, they are likely to try to set up their own punishments as a means of getting self-control. These are important cues for the leader.

Our experience suggests that this type of group pattern should be followed by direct action. Since the children carry the same attitude and the same kind of resistance into individual casework, it becomes vital to provide concrete support in some other manner. This may best be done through specialized program designing until the child is ready to move into closer and more useful interpersonal relationships. It is important to remember that these groups are not in need of limit teaching, or patterning. They not only know what they should do; they want to do it. Their blowups are more likely to be due to their poor controls than to a calculated or premeditated program of harassment.

The following is an excerpt from a session which was precipitated by an attack on D, the cabin clown.

W, the instigator, took D's bat and D in return took W's shoes. W went after D and held him. S hit him. J knocked his blankets off and kicked his bed from underneath, and so on.

The session had been going on for about 35 minutes. After determination of the sequence of events, there was an explanation of why they teased D, the scapegoat, namely, his small size, thick eyeglasses, comic behavior. D voices his feeling about being scapegoated. P comments that he feels similarly when they tease him about being enuretic. They then move to each other's difficulties, which the leader summarizes.

P: And that little bum over there reading that book, he calls me "Peebody."

L: When did you call him that?

P: When I first came he said, "Hi, hey Peebody, what are you doing down there?"

D (interrupts): Yea—he talks about my getting on his bed. I got on his bed once this morning. And he told me to get off. I said, "Oh yeh, I'm on," and he started hitting me.

S: I didn't mean to call him Peebody.

L: P, can't you sit down, please.

P: Oh, no.

S: Someone in the cabin told me to call him Peebody.

D: Not me.

L: I don't understand that.

P (interrupts): It was in cabin three. It was that R.

L: I don't understand the reason that you did it.

S: I said, "What's his name?" He said, "Just call him Peebody."

L: So you should do it?

P: I know who that is.

S: I didn't know his name.

L: The way you explain what you do is you say someone else told you to.

(A discussion of this brings out more of P's feeling about it and a clear injunction by the leader against this type of name calling. The leader then returns to solution seeking.)

L: D, what do you think you could do to make this a better cabin?

D: I don't know.

L: Don't you have any ideas?

W: I know, I know, I think if we separated, we'd all feel better. I know I would.

L: How about what to do? Don't you have any ideas?

J: But I wasn't fighting. He lay on my bed.

The session continues; the leader tries to structure some limits which the group recognizes, without assuming responsibility. Termination follows the indication by members that they can manage better after this. But nothing has happened to suggest any change.

The interpretive-acceptance type of group interview

A third style of group interview results when the cabin group has a more positive relationship to the adult leader. Frequently, such a group contains members who have had productive individual therapy. The members respond to a benign adult who is nonpunitive and is seriously concerned about them. Usually they are at first confused by the lack of traditional punishment by the adult. Very often a session of this type includes an early exploration of punishment. They may be perplexed by the responsibility of "solving" the problem. More adult relatedness is shown than was found in the previous styles. While there may be delinquent behavior, it is most often of neurotic rather than sociopathic origin. There is usually some expression by members in the group session regarding the need to listen, to be quiet. Campers returning for a second season frequently develop this tone. The main characteristic is the lack of defensiveness in their behavior. They are frequently as eager to tell about themselves as they are to report on others.

It appears, from their mood, as if they expect adult support and help. They usually admit the unacceptability of their behavior with some chagrin. When a leader works with a group like this, the catharsis which takes place during the session often has an obvious quieting effect, a reassuring tenor. The lack of a punitive approach by the adult encourages one member to help another to talk more freely with the leader.

It is in these group interviews that mild interpretation can be given. The basic attempt is to connect behavior in camp with causes which came before camp. The fact that anger is a common and legitimate feeling which we learn to manage, indications of simple devices that may help in a crisis, talking about trouble with teachers which might be like trouble with a counselor, or about sibling conflicts similar to cabinmate conflicts, are examples of what can be worked into the group thinking. There is frequently an increased tolerance for one another, and the fresh start has the asset of accepted supportive suggestion from the adult. The caseworkers to whom the boys are referred for individual work are used more productively after sessions like these.

Spontaneous therapeutic interaction group interview

In certain instances a group moves into spontaneous productions of significant life experiences. The whole atmosphere changes. Usually the focus on the problem is high, the involvement is intense, and all take active part in the experience. Sometimes members participate by rapt attention rather than words, but in marked contrast to the out-of-the-field behavior which typically characterizes these preadolescent and early adolescent boys. The revelations of their difficulties are given with feeling, occasionally approaching a specific abreaction with tremendous emotion. There is much mutual discussion, and real sympathetic concern for the plight of one another.

When this happens, there is the same type of relief that is seen after a significant session in traditional individual therapy. The discussion may start in one area, such as a stealing episode, and as the impulse to talk moves from one to another, the content may change entirely. Each discusses the thing most on his mind—trouble with the police, difficulty with a parent. These episodes are not told in a bragging way, but with the accompanying emotion the boy felt. For example, an undiscovered theft is portrayed. Suggestions from the others are forthcoming on how the boy should handle the situation. There is a willingness to connect the past behavior with camp behavior. The leader's interpretations are responded to and become part of the process. . . .

Unclassified type of group interview

Some groups are so mixed in tone, or have such an ill-defined sequence that they do not fit in any of the above categories. There are also some sessions which are completely unstructured. Considerable adult pressure has to be applied to get any focus whatsoever on problems, and no solutions are forthcoming. On some occasions the mutual contagion is so high that individual interviews are required even though the problem is a group one. The behavior in the group session may be a cover for material which we cannot get to. Exuberance, similar to that of normal children, no doubt accounts for other undefined sessions. Or there may be very diffuse or generalized anxiety which cannot be brought to the conscious level. Often giggling and silly humor dominates for a while, gradually tapering off to reading, playing cards, or just generalized discussion. To imply that there is always something specific which must be brought out might well be a mistake in such instances.

EVALUATING GROUP INTERVIEWS

Although this study was aimed primarily at a preliminary analysis of the group interviews themselves, we have attempted to evaluate the outcome of these sessions.

The daily records on each camper and each cabin were used as sources for this evaluation. A research assistant, who had neither known the boys nor listened to the recordings, examined the group and individual logs for three-day periods after each session. If a group had another session within this period, only the interim period was used. A judgment was made as to whether the cabin's behavior deteriorated, remained the same, or improved for this postinterview period. Table 1 presents this tabulation by cabins, for all 88 of the summer's interviews.

TABLE 1. Postinterview Behavior: All Sessions

(Based on three days' group logs.)

Worse	2
No change	33
Possibly positive	34
Clearly positive	17
No records	2
Total	88

We then looked at these judgments of postinterview behavior in conjunction with the type of interviews described above. This could be done only where we had complete records, namely, the 27 classified interviews which had been recorded. These data appear in Table 2. The ratings reflect only the overt behavior viewed from a control point of view.

The group interview that runs its course with a systematized, antisocial attitude from the campers seems to accomplish one of its clear purposes. It modifies behavior in compliance with camp regulations. Because of the gratification camp offers these boys they want to stay, and when they clearly perceive that the consequences of continuing certain behavior will be the termination of camping, they restrict that behavior. Most likely they will substitute other unacceptable behavior, but of a kind that they can claim has not yet been forbidden by the letter of the law. So it continues. During this repetitive process, they gradually acclimate to the code required.

The second type of interview, characterized by symptomatic compliance, does not fare so well, as we would expect from the lack of useful movement and the unsatisfactory problem resolution in the interview. We would expect no change, following our previous discussion of this type of interview. The relatively large number of sessions of this type suggested that we should look more carefully at them, even in this pilot study, to get some hint as to what might be keeping these interviews from moving into a more meaningful phase. This could be done for the 10 of the 12 such sessions for which we had actual recordings rather than a dictated summary.

TABLE 2. Postinterview Behavior: Recorded Sessions

Type of Group Interview	Worse	No Change	Possibly Positive	Clearly Positive	No Records	Totals
Systematized antisocial behavior		1	4	3		8
Symptomatic compliance	1	7	2	1	1	12
Interpretive acceptance			1			1
Spontaneous therapeutic interaction				3		3
Unclassified		2	1			3
Totals	1	10	8	7	1	27

In two cases, the resolution phase was not on tape. Three interviews were of this type by the conscious choice of the leader. They represent a brief, surface handling of a minor incident, usually by a less experienced leader, and center around a restatement of limits. Perhaps more time could have converted these into more useful sessions.

The five remaining recordings were examined in detail for clues as to what keeps these interviews from moving into a more satisfactory phase. Two of these are with the youngest group, who perhaps deserve a special category. Even though the adult leader puts a considerable amount of stress on the situation, many children of eight and some immature nine- and ten-year-olds may not be integrated enough, or group related enough, to have a group interview. Some of their interviews start and end in complete confusion. . . .

This leaves three interviews remaining in this category. They are sessions with three different groups and three different leaders. They all have portions similar to more productive interviews, but they end in an unsatisfactory manner. Since each group session, like an individual interview, has its own natural history, the leader may have ended too soon. It is most difficult to know when to terminate, when to extend. An interview may be terminated with a resolve to "do better," when a more meaningful resolution might have been achieved. . . .

The more traditional therapeutic interviews, represented in the third and fourth categories—the interpretive acceptance and the spontaneous therapeutic interaction types—seem to have positive results so far as immediate behavior is concerned. A larger sample is desirable. In addition, we are trying to develop ways of assessing the impact of all these interview styles on the boys in respects other than the overt management problem presented at camp.

Future recording of a sequence of interviews for a given group will make possible the investigation of the degree to which initial group interviews of a given type influence the rest of that cabin's group interview history. Also we need to relate this material to the cabin group clientele. . . .

We have here mapped out only roughly some of the areas of future investigation. The group interview, if we are sensitive to what it can tell us, should play an important part in evaluating the total impact of the milieu therapy we undertake each summer with disturbed preadolescent and adolescent boys.

INTERPRETING THE SELECTIONS

Bower article

1. What were the most important differences between the emotionally disturbed youngsters and the other children in the classrooms studied?

2. What were some of the unexpected findings of the study?

3. What are the advantages of "The Class Play" over direct questions regarding the roles of various class members? Do you think the play would work with high-school pupils?

4. Of what diagnostic use is a "psychological thermometer" since it does not tell a teacher what the cause of behavior is or what remedy can be applied?

Ojemann article

1. Explain the differences between "purposive behavior" as described by Dreikurs and "causal behavior" as described by Ojemann.

2. Obtain a fifth-grade social-studies textbook and outline a plan for teaching one chapter or unit with a causal approach. Compare your plan with those of other students in your class and with the way social studies is characteristically taught.

3. What kinds of proof of the workability of the causal approach to teaching does Ojemann cite?

4. What are some of the reasons why teachers so often fail to incorporate well-known principles of mental health into their teaching and into their relationships in the classroom?

Dreikurs article

1. What is meant by "purposive behavior"?

2. Compare Dreikurs' discussion of "purposive behavior" with that of Bigge's on pages 169-173.

3. Can you see any dangers in the kind of group discussion described in this article? Do you agree with the author's closing comments answering the objections?

4. How much and what kind of training do you think a teacher would need in order to conduct group sessions of this kind?

5. Do you agree that the discussions described here are in the nature of an educational process rather than group therapy? Under what conditions do you think the school should embark on such programs?

Morse and Small article

1. What are the major characteristics of the five types of group interviews described? Of what value is the classification of the interviews into these categories?

2. What are the differences in goals and in methods used between the group work described by Dreikurs and that described by Morse and Small? What differences in training would be needed by the leaders of the two types of groups?

3. What conclusions were drawn by the authors regarding the value of these therapeutic sessions? Do you think there are any principles illustrated here that should be used in schools?

16 EVALUATING LEARNING AND TEACHING

On the Assessment of Academic Achievement

Henry S. Dyer[1]

Although standardized tests have been the focus of much critical scrutiny in recent years, they are still widely used as a major arbiter in judgments of the success or failure of the individual being tested, whether he is taking the test for college entrance, job placement, or government service. How valid is this apparent faith in the results of standardized tests? Dr. Dyer, an official of the Education Testing Service, presents his views on the accomplishments, limitations, and misuses of most of the testing programs in use today. He also gives us an exciting glimpse into the possible future of testing in which the goals of instruction are more clearly defined and in which such intangibles as growth in maturity and thinking abilities will become available to the testing process.

In these days of ferment in the curriculum, any large producer of educational tests is likely to get strange and wonderful requests from teachers suddenly smitten by the need to evaluate the new things they are doing. The following letter, though purely imaginary, is not untypical. It reflects a few of the mistaken ideas about testing and the assessment of achievement which are prevalent:

Dear Sir:

During this past academic year I have been giving a new course, Marine Wild Life 106. I need some incontrovertible evidence to prove to my suspicious colleagues that Marine Wild Life 106 is more comprehensive and effective than the course it has replaced, namely, Marine Wild Life 102.

Will you therefore please send me 92 copies of your standardized objective test in ichthyology? I am particularly interested in showing that my students have developed a true and deep appreciation of the love-life of our underwater friends.

Please rush the shipment, since I want to give the test as part of my final examination next Thursday.

Sincerely yours,
Professor Finn

Although Professor Finn does not exist, he has many educational cousins who do, and who think, with him, that the purpose of educational evaluation is to demonstrate the truth of a foregone conclusion. It has never occurred to him that an investigation of Marine Wild Life 106 should be so planned as to permit negative findings to appear if, in fact, the course is not all he firmly believes it to be.

---

[1] from Teachers College Record, Vol. 62, No. 2, Nov. 1960, pp. 164-172. Reprinted by permission of author and publisher.

But what most bothers the professional tester about the many Professor Finns who are experimenting with new courses is the series of bland assumptions that lie behind the letters they write. The first such assumption is that one can prove something by giving a single test after the show is all over. The second is that a standardized objective test is standard and objective in some absolute sense, as though it had been made in heaven. The third is that testing agencies are like vending machines: All you have to do is put your nickel in the right slot, and out will come precisely the test you are looking for. All of which would be just dandy if true, but unfortunately none of these assumptions bears any noticeable relation to the facts of testing and the assessment of achievement.

THE HUMAN SIDE OF TESTS

What Professor Finn does not appear to realize is that an educational test of any kind is primarily a human process, not a physical thing. It is a process that begins and ends in human judgment. It is a process that requires time, effort, and hard creative thinking, not only of the professional tester, but of the test user as well. It is a process that can take an infinite number of forms, depending on the purposes to be served and the conditions under which the testing is to be done. It is a process that can hardly be confined to the use of multiple choice questions and paper-and-pencil techniques if it is to provide the sort of rewarding illumination of the educational scene that some people hope for.

In what follows I shall discuss some of the essentials of the testing process as applied to the assessment of academic achievement and pay my respects to several of the knotty problems that bedevil the whole enterprise. The discussion will turn up more questions than answers, but if the questions are sufficiently disturbing, the outcome should be such as to nudge Professor Finn toward deeper wisdom in approaching his evaluation problem.

What do we mean by "academic achievement"? If it is something we are trying to assess, then it seems reasonable to ask first of all what it is. In current usage, it is a fuzzy term that may mean any one of a dozen unspecified things: the sum total of information a student has at his command when he finishes a course of instruction, the getting of a passing grade in a course regardless of what may lie behind the grade, the score on a test that has "achievement" in the title, and so on.

There are two ideas that can be used to pin down the notion of academic achievement a bit more precisely. The first idea is that academic achievement refers to the *identifiable operations* a student is expected to perform on the materials of a course, that is, on the facts, theories, problems, principles, and points of view which he encounters while taking the course. The second idea is that academic achievement refers to the *differences* between the number and kinds of operations a student can and does perform at the beginning of a course and the number and kinds of operations he can and does perform at the end of a course.

The key terms in this definition of achievement are *identifiable operations* and *differences.* The emphasis on operations is supposed to suggest that it is what the student actually *does* that counts. We should think of achievement as something composed of transitive verbs with direct objects—verbs like *infer, generalize, recall, compare, analyze, evaluate, organize, criticize.* And we need to be sure that we can identify these operations by reference to specific tasks or questions that require them. ("What inferences can you draw from the following set of data?" "What general principle can you find that explains the behavior of the following political figures?" etc.)

The emphasis on the *differences* between what a student does at the beginning of a course and what he does at the end of a course calls attention to the fact that academic achievement is a dynamic, not a static, concept; it is what has happened between then and now, not just what is happening now. Can the student now solve differential equations that he found impossible last October? Can he detect differences between Beethoven and Brahms that were not apparent to him earlier? Can he organize his thoughts in written form better than he did at the outset?

Clearly, under this definition, the assessment of academic achievement is a complicated business; it is not something that can be done merely by going out and buying a standardized test two weeks before the final examination. It requires that the teacher responsible for a course must himself be a major participant in the assessment job from start to finish. He may be able to get supplementary aid from published tests; he may find that the professionals in testing can give him useful ideas and point the way to sound strategy; but the substance of the job of sizing up what he has done to his students rests with him.

How shall he proceed?

CLARITY OF GOALS

Obviously, the first step is for him to get a clear idea of what he is trying to have his students achieve. What operations does he want them to perform in June that they could not perform last September? This may be an "obvious" first step, but a look around the classrooms of the country suggests that it is a step rarely taken. Almost invariably teachers are more concerned with what *they* are going to do in their courses than with what their *students* are going to do. Lessons and lectures are outlined, reading lists are laid out, visual aids are planned, but few teachers give much concentrated attention to what the fuss is really all about from the standpoint of the student. If a syllabus is prepared, it almost never gives any detailed description of what students are supposed to be able to do as a result of having been exposed to the instructor and the subject matter. There is usually a hope that students will be impressed, that they will remember something, and in a vague sort of way it is felt that the course experiences will do them good, that is, make better thinkers or better citizens of them. But there is very little disposition to get down to brass tacks and specify what kinds of student performance are deemed to reflect better thinking or better citizenship.

All of which is hardly surprising. Stating the goals of a course in a highly concrete manner takes more energy and imagination than most teachers have time for. One of the very practical problems in developing a sound assessment program is to find the time needed to carry out this essential first step.

Generally speaking the goals of achievement fall into three broad classes: informational goals, proficiency goals, and attitudinal goals. The informational goals refer to those items of information that students are expected to know and give forth on demand by the time they have completed a course. It would appear that these can be readily described simply by listing the topics, sub-topics, and sub-sub-topics the course is expected to cover. But this is only half the story. A fact in human knowledge is not just the name of something standing all by itself; it is a subject and a predicate. It is not just the name "sodium;" it is the sentence, "Sodium is a metal." Progress toward the informational goals of a course, therefore, is measured by the number and complexity of these subject-predicate relationships which the student can reproduce. In making the informational goals useful as a basis for assessing achievement, some explicit attention must be given to these relationships and to their degree of complexity. It is not sufficient to list topics and sub-topics and sub-sub-topics.

The large majority of teachers would disown the idea that the *only* kinds of goals they have in mind for their courses are informational goals. They would argue, and quite properly, that information is one of the goals, and a necessary one, but certainly not one of ultimate importance. This they argue, but their arguments are too often confounded by their own examinations, which demand facts and facts only. One of the hoariest criticisms brought against objective tests is that they test only for factual information, while essay tests get at the higher aspects of learning. This would be a cogent criticism except for two things: First, a well-made objective test need not be limited to the measurement of factual information; and second, essay tests are too frequently graded solely by counting the number of relevant facts that each student churns up.

Most of what we think of as "the higher aspects of learning" is contained in the proficiency goals of academic achievement, that is, proficiency in various kinds of skills, both manual and mental—manipulative skills, problem solving skills, evaluative skills, and organizational skills. Taken together, they add up to effective thinking and sound execution. But to be useful as guides in the assessment of achievement, they must *not* be taken together; they must be elaborated in detail and expressed in terms of the multitude of different kinds of specific tasks a student is expected to perform and in terms of the specific kinds of operations he must follow in performing them.

Unless the proficiency goals are elaborated in this fashion, they may be too easily overlooked or forgotten. Back in the 1930's a number of experiments in the teaching of science led to the conclusion that science courses without laboratory instruction were just as effective as science courses with laboratory instruction. The typical set-up was to divide science classes into two groups, one of which received laboratory work in addition to the regular course work and the other of which received no laboratory exercise. At the end of the course, the two groups would be compared by means of an achievement test in science. The differences in test scores between the two groups were generally negligible. Why? Because in setting up the tests, the proficiency goals peculiar to laboratory instruction had been overlooked. The only measures used had been measures related mainly to informational goals that have little or nothing to do with what goes on in a laboratory. Under these conditions, the finding of no difference in achievement between the two groups is essentially meaningless, since the relevant proficiency variables had not been taken into account. More recently Kruglak and his associates at Minnesota have taken a second look at this problem in science teaching, have devised tests aimed directly at the proficiency goals of laboratory instruction, and have come up with results of a more meaningful sort.

It is admittedly no easy matter to define all the proficiency goals in terms of student performance. One can flounder a long time over the types of performance that form the components of creative thinking, for instance, or skill in evaluative judgment. The result is that nobody has yet been able to produce a completely satisfactory and universally applicable method for assessing achievement in these areas. On the other hand, there have been some interesting attacks on the problem, and possibly in the course of time it may be solved. A giant step toward the solution will be made when teachers now uttering pious sentiments on the subject will get down to cases and try to define what they are really looking for when they speak of such things as "creative power" and "sensitivity to values."

Finally, there are the attitudinal goals—those educational objectives which are often blithely called the "intangibles." Everybody applauds them, but few teachers seem to know what to do about them. How does one define such goals as love of music or sense of social responsibility or enthusiasm for abstract ideas in such a way that they can be recognized when seen? What is it that a student does to demonstrate that he likes good literature? We have our dodges on matters of this sort: We count the books a student takes out of the library; we measure the amount of spare time he gives to good reading (provided, of course, we allow him any spare time at all); we engage him in conversation and try to judge from the fervor in his voice how far along the scale of appreciation his reading has brought him, or we ask him outright on some sort of rating schedule how well he likes Shakespeare and T. S. Eliot. But we suspect that these devices for uncovering attitudes are based on exceedingly tenuous inferences. Books may be taken out of the library not to be read, but to maintain an impressive looking bookshelf. The time spent in reading may really be spent only in an effort to avoid reality. Conversational fervor may be only good acting or the effect of one cocktail too many. And a rating schedule can almost always be faked if much depends upon it.

I dislike to be discouraging in this all-important matter of attitudinal goals, but thus far very few operations have been suggested which define them satisfactorily. There are some breaks in the clouds, though. At Pennsylvania State University a group of experimenters has been trying to get a line on student attitudes toward television instruction. One device they have hit upon is to give the students generous samples of both TV instruction and conventional instruction, and then to permit them a genuine choice as to which type they would take for the remainder of the semester. This is a real operational definition of a specific attitude. It furnishes a fruitful clue for further development in defining attitudes in other areas, the general principle being that one defines attitudes in terms of live decisions that make an actual difference in what an individual will do or not do.

MEASUREMENTS OF GOALS

Once the goals of instruction have been clearly set forth by describing the operations students have to perform to attain them, the problem of devising tests and other techniques for assessing academic achievement is at least seventy-five per cent solved. The reason is that an achievement test is in effect a sample of all the kinds of tasks that a given course of study is striving to get students to master. As such, the tests should in themselves constitute a definition of the goals to be attained. In putting together an appropriate sample of tasks and checking out their adequacy, there are technical matters in which the experienced tester may serve as a guide to the teacher. But, again, the questions of what to include or not to include, what is more important and what is less important, what constitutes a good response and what constitutes a poor response must in the last analysis be the teacher's decision if the test is to measure progress toward the goals *he* has in mind.

On the other hand, as mentioned above, teachers are busy people who are unlikely to find the time they need to do all that really should be done to work out the goals of their own instruction and to devise fully valid measures for assessing achievement. What are some of the practical compromises?

In the first place, although one is unlikely to find any published standardized test that in all respects fits the goals of a particular course or school, one may, by analyzing such tests question by question, possibly find one that comes reasonably close. Looking at a test question by question is important not only for determining a test's general suitability, but also for deciding what questions might properly be eliminated in assessing the performance of one's own students. Surprisingly, the notion of adapting a published test by dropping out irrelevant material seldom occurs to people, yet in many circumstances it is an obvious and justifiable procedure.

Standardized tests, when they can be found and adapted, have two important advantages for any program for assessing academic achievement. First, the makers of such tests have usually lavished a great deal of care on the preparation and try-out of each question to make sure that it is unambiguous, that it discriminates sharply between good and poor students, and that it is of the right level of difficulty for the group at which it is aimed. Second, two or more parallel forms of a standardized test are usually available, so that one has at his disposal the means for accomplishing a highly important part of the assessment job, that of measuring the student's performance twice—once at the beginning of the course and once again at the end.

TESTING THINKING ABILITY

Until recently most standardized tests have concentrated rather heavily on the purely informational goals of instruction and have tended to neglect the proficiency goals. In the last few years, however, there has been a marked change in this respect. More and more tests are made up of questions that require the student to perform various mental operations well beyond the simple operation of recalling learned facts. . . .

Despite the progress that may have been made in developing standardized tests, one must always bear in mind that they can never do the whole job of assessing academic achievement in a particular situation. In the last analysis, if a teacher wants to measure those aspects of achievement peculiar to his own instruction he must resort to at least some tests of his own making. He can get some good ideas for approaching this enterprise from two books: *Taxonomy of Educational Objectives*[2] and *General Education: Explorations in Evaluation.*[3] If one peruses these books looking for new testing ideas rather than faults, one may find much that is helpful in suggesting ways and means of measuring progress toward the goal of more effective thinking.

But the assessment of the student's growth in effective thinking is still not enough. Any teacher with a well-developed conscience is primarily concerned that his students shall acquire increasing maturity in their attitudes, that is, a more grown-up and informed approach to life and learning. The assessment of this aspect of achievement requires ingenuity and a willingness to experiment with tests that might be regarded as "offbeat."

TESTING MATURITY

Two such instruments may be mentioned as examples. One, called *The Facts About Science*[4], looks on the surface like an ordinary factual test aimed at seeing how much the student knows about scientists and the sorts of things they do. Actually, however, the payoff response to each of the scored questions represents a false sterotype of the scientist or his work, e.g., "A scientist has no sense of humor." The test has been used to see to what extent high school courses in science influence students away from these false stereotypes. The same approach could be taken to get at student attitudes toward many other social institutions and enterprises.

Another instrument carries the title *Sizing Up Your School Subjects.*[5] It focuses on students' attitudes toward their current academic work and is especially designed for use in educational experiments where a given subject is being taught by two or more methods. Through an indirect approach, which almost certainly guarantees that the student will not fake his responses, it provides the means for comparing different courses or different methods of instruction in the same course with respect to the reactions of students to ten aspects of the material or the teaching. (E.g., What course is best at holding the student's attention? What course is regarded by the student as most valuable to him?) With a little imagination, the technique can be elaborated to cover the attitudes of students toward almost any feature of the academic work in which they are engaged.

ALTERNATIVE DEVICES

One of the things that is holding back the development of new and better methods of assessing academic achievement, especially in the area of attitudes, is the tendency to think almost exclusively in terms of paper-and-pencil tests, particularly multiple choice tests. Multiple choice tests are useful up to a point. They can do more than most people realize in tapping a student's higher mental processes, and all the possibilities of multiple choice questions have not yet been fully explored. Nevertheless, the multiple choice test has, by its very nature, certain severe limitations. So do other forms of written tests, including essay tests.

To break out of this restricted mode of thinking we ought to consider how to exploit the possibilities in the so-called situational tests which psychologists have been working on in recent years. To what extent can such tests be adapted to the measurement of the "intangibles" of academic achievement? Situational tests are still highly experimental and full of technical problems, but they may well be the answer to the question of how to evaluate many of the subtle aspects of human behavior that can never be reached satisfactorily by paper-and-pencil devices.

One effort to apply a situational test in the classroom setting can be found in *The Russell Sage Social Relations Test.*[6] On the surface, this is a test of the ability of a group of students to solve cooperatively a series of construction problems. It does in fact give a reasonably good measure of the group's effectiveness in this situation. If properly administered, however, it also yields information about other important aspects of group behavior: how well the students have learned to work together, how they respond to group control, how well they develop . . . an efficient group organization, . . . and so on.

---

[2] B. S. Bloom, ed. **Taxonomy of Educational Objectives** (New York: Longmans, Green, 1956).

[3] P. L. Dressel and L. B. Mayhew. **General Education: Explorations in Evaluation** (Washington, D.C.: American Council on Education, 1954).

[4] G. Stice. **The Facts About Science Tests** (Princeton, N.J.: Educational Testing Service, 1958).

[5] H. S. Dyer and A. H. Ferris. **Sizing Up Your School Subjects** (Princeton, N.J.: Educational Testing Service, 1958).

[6] D. E. Damrin. "The Russell Sage Social Relations Test: A Technique for Measuring Group Problem Solving Skills in Elementary School Children," **Journal of Experimental Psychology, 1959,** Vol. 28, pp. 85-99.

This sort of technique, and others like it, should eventually bring us closer to a truly adequate assessment of how students are attaining the attitudinal goals of instruction. Indeed, such techniques can do more. They can dramatize the importance of the goals by demonstrating how far we are falling short of achieving them. The development and application of good situational tests are expensive and time-consuming. Nevertheless, if we really wish to know what is happening to students in our classrooms, we are going to have to give up the notion that we can find out by relying on the "quick-and-dirty" tests that come cheap. . . .

Pitfalls in the Measurement of Gains in Achievement

Paul B. Diederich[7]

The following article examines the frequently used method of measuring growth in achievement by the administration of pretests and post-tests. Based on the 1954 Final Report of the Cooperative Study of Evaluation in General Education, it describes the results of pretests and post-tests that were given to 1400 college students in nine colleges. The surface conclusions were more than a little startling—students with the lowest initial scores gained most on the post-test, those in the middle gained less, and those with the highest initial scores gained little or even regressed! Can these conclusions be accepted? Dr. Diederich offers some hypotheses by way of explanation that constitute still another warning of the dangers of accepting test scores *per se*.

When a teacher gives a published test of almost any skill that develops more or less continuously, such as reading, writing, or arithmetic, at the beginning of the school year and a parallel form of the same test at the end, the average score is practically certain to rise. In addition to the fact that teachers are better at their jobs than most people realize, all the forces of growth are on their side, just as all the recuperative powers of the body are on the side of the physician. If we ever need evidence to confound our critics, we can find it in the difference between initial and final averages on standardized tests.

---

[7] Reprinted from School Review, 1956, 64:59-63, by permission of The University of Chicago Press. Copyright 1956 by The University of Chicago.

If it should occur to the critic, however, or even to a friendly inquirer to find out how much the lowest fifth on the initial test had gained, then the middle fifth, and then the highest fifth, he could upset our apple cart. In most cases it would turn out that the students who made the lowest initial scores had gained by far the most, those in the middle had gained less, and those at the top had gained little or nothing. Some of the latter would even appear to have lost ground. The obvious conclusion would be that instruction had been pitched at the level of the least able, the brighter students had not been stimulated and had loafed on the job, and almost all of the average gain to which we pointed with such pride could be attributed to the fact that the bottom of the distribution had been hauled up to about the level of the initial average.

COOPERATIVE STUDY DATA

That this is not a fanciful or unusual situation is shown by the 1954 Final Report of the Cooperative Study of Evaluation in General Education.[8] The table shows average gains from the beginning to the end of the Freshman year for an average of 1,400 students in nine colleges, from the lowest fifth on the pretest up to the highest fifth, on all instruments developed during the Cooperative Study.

Average gains of students on post-tests, classified according to pretest standing*

Test	Low group	Low middle group	Middle group	High middle group	High group
Critical thinking in social science	6.89	5.48	3.68	4.20	2.26
Science reasoning and understanding	6.26	5.16	2.93	2.04	0.31
Humanities participation inventory	18.00	5.05	4.94	1.39	—2.07
Analysis of reading and writing	5.33	2.89	1.81	1.22	0.25
Critical thinking	6.68	4.65	3.47	2.60	1.59
Inventory of beliefs	9.09	5.31	4.65	3.32	1.01
Problems in human relations	3.19	1.67	1.31	1.51	—0.36

*Adapted from Paul L. Dressel and Lewis B. Mayhew, **General Education: Explorations in Evaluation**, Table 5, p. 59; Table 14, p. 99; Table 19, p. 128; Table 36, p. 166; Table 50, p. 204; Table 53, p. 227; Table 58, p. 237.

Whatever test or inventories were used, and wherever they were used, students with the lowest initial scores appeared to gain the most; students with the highest initial scores appeared either to have gained least or to have lost ground. This was true not only of cognitive tests but of instruments attempting to measure appreciations, attitudes, and insight into human relations. The Humanities Participation Inventory, for example, simply asked students how often they engaged in certain common activities that imply interest in literature and the arts and how much they enjoyed the activities. The Inventory of Beliefs called for degrees of agreement or disagreement with 120 statements which, at the lower end of the scale, were thought to imply immaturity, rigidity, authoritarianism, and compulsiveness; at the higher end, adaptiveness, flexibility, maturity, and democratic relationships with others. Problems in Human Relations presented thirty such problems and called for a choice among five ways of dealing with each. Even on these kinds of instruments the largest average gains were made by the students with the lowest initial scores.

So many students in so many different colleges were tested that the consistent downward trend in the data on gains, from initially lowest to initially highest, cannot be attributed to the population tested. The fact that the same trend is shown by all instruments developed in the study suggests that it cannot be attributed to poor test construction. The colleges participating in the study were selected for the excellence of their general-education programs; they could not all have done a poor job of teaching. It is contrary to all teaching experience to suppose that the initially weak students were, in every case, more highly motivated than the initially strong. The data seem unassailable; yet we cannot accept the conclusion that "poor" students regularly learn more than "good" students. Something in the nature of present test construction or of the test-retest situation gives initial low scorers an advantage. What is it?

---

[8] Paul L. Dressel and Lewis B. Mayhew, **General Education: Explorations in Evaluation** (Washington: American Council on Education, 1954).

PROPHECIES DISCREDITED

Unless we can find answers to this question and do something about them, two of our most hopeful prophecies connected with testing are likely to be discredited. The first may be stated in the form of an incomplete sentence: "When testing turns from the measurement of status to the measurement of growth. . . ." What will happen is not very clear, but we assume that it is bound to be good. The data just cited suggest that it is bound to be bad. . . .

The second prophecy is that, when marks are based on growth rather than on final status, the inequities of the present marking system will disappear. So they will, it seems, but only to be replaced by a greater inequity: the guaranteed superiority of the least able. This will be the proletarian revolution at its worst. The only way in which good students will be able to get good marks will be to select the most obviously absurd answers to all the items on their pretests.

These prospects, we trust, will not come to pass; the good sense of the profession will reject such outrageous conclusions. But at the same time teachers and administrators are likely to reject testing. They cannot put their faith in instruments that lead to absurd conclusions. True, many of them have absorbed enough of the scientific spirit to delight in findings that upset the conclusions of common sense, but here the "findings" put too great a strain on our credulity. As we think of the lowest fifth of our entering students last year, then of the highest fifth, and of what both groups did that showed a genuine effort to learn and indicated substantial advances in intellectual competence, we cannot believe that the low group gained from three to twenty times as much as the high in everything we tried to teach.

If we turn to essay testing and impose scientific controls on it that warrant faith in its conclusions, the results will be equally disheartening. Repeatedly I have had students write a paper on a given topic at the beginning of the year, then a second paper on the same topic at the end, and had both sets of papers shuffled together and graded by readers who did not know which essays were written first or last. In every case the groups with the lowest initial essay scores showed the greatest gains.

The true conclusion emerging from these considerations, I suggest, is that we do not know very much about the measurement of growth. Testing and retesting will have to be put on some different basis before we can find out and truly evaluate how much students have learned. I do not know how this will be done, but I can review three of the most obvious difficulties that will have to be surmounted.

CEILING EFFECT

The first difficulty is that the pretests may have been too easy for the high-scoring students and their initial scores were so near the maximum possible scores as to leave little room for improvement. We usually discard this hypothesis far too hastily when we find that the highest final score was 90 per cent correct and the average went up only from 50 to 60 per cent correct. What we overlook is that the maximum attainable score may be a good deal lower than 100 per cent correct.

Good tests of such complex skills as reading and writing go beyond matters on which everyone can agree into questions calling for insight, judgment, and taste—the very qualities in which we hope our best students will show their greatest improvement. On such questions, however, it is impossible to secure 100 per cent agreement among qualified critics of the test. On the test of Critical Analysis of Reading and Writing used in the Cooperative Study, for example, no item was admitted to the final form of the test on which fewer than eleven out of the thirteen critics agreed. Restricting the test to items on which everyone agreed would have resulted in a very dull test, unlikely to challenge the brighter students. While the standard of agreement seemed strict enough, there were a good many items that only 84 per cent of competent English teachers answered correctly. In such a case we should regard 84 per cent correct as the maximum attainable score. Many of the students in the highest fifth came perilously close to this figure in the pretest.

Even so, the highest fifth should have been able to show more than the average gain of a quarter of a point that was reported in the study, for the lowest members of this group got only half the items right on the pretest. Some other explanation is needed.

REGRESSION

The most likely explanation of the apparently unfavorable difference in gains is the phenomenon known as "regression." Scores on all objective tests are determined partly by ability and partly by luck. The items presented to the students are only a sample drawn from an almost infinite number of similar questions that might have been asked. The particular sample that happens to be chosen is bound to favor some students more than others. They have had more experience with these kinds of questions or have given more thought to them. But when a different sample is drawn, luck is not likely to favor the same students to the same degree.

Moreover, students are rarely certain in their choice of answers. On a five-choice item they may eliminate one as absurd and two others as common errors of which they have learned to beware. The remaining two appear equally plausible, and they decide by a mental "flip of a coin." The initial high scorers were lucky in their guesses; the initial low scorers were not. On a second test, the proportion of chance success may be reversed.

The phenomenon of regression has been studied by the statisticians, and they have provided an easy-to-use formula to predict what final score is to be expected on the basis of any given initial score—to the extent that chance is involved in both. I can explain how the principle works with a minimum of numbers if we imagine the following situation.

A class has been given a test of reading and writing on their first day in school and a parallel form of the same test on the second day. It is parallel in all respects: covers the same type of content with the same types of items, and the mean, standard deviation, and reliability of the second test are all equal to those of the first. The students have had sufficient practice in taking machine-scored objective tests so that marking the answer spaces is not a problem in either test. They are not told their scores on the first test, nor which answers are correct. They learn nothing about reading and writing in the interim. Let us imagine that the average score on the first test is 16; the average of the lowest fifth is 8; of the highest fifth, 24; and the reliability of the tests, as indicated by the correlation between them, is .70. What average scores of the lowest and the highest fifths may be expected on the second test when chance alone is involved?

In such a situation, final scores may be predicted by multiplying initial differences from the average by the reliability of the tests.[9] Take the difference of the lowest fifth from the average of the total group: it is –8. Multiply this by the reliability (.70), and you get –5.6. Take 5.6 from the initial average (16), and the predicted score of the lowest fifth on the second test will be 10.4. Since their initial average was 8, they will appear to have gained 2.4 points.

Similarly, take the difference of the highest fifth from the initial average (+8), multiply by the reliability (.70), and you get +5.6. Add this to the initial average (16), and the predicted score of the highest fifth on the second test will be 21.6. Since their initial average was 24, they will appear to have lost 2.4 points.

While the situation we have imagined is artificial, the same chance factors will operate to the same extent when the tests are given at the beginning and end of the school year—provided that the two tests are strictly parallel. In the ordinary course of events, of course, they are not strictly parallel, and then chance differences will be even greater. We usually do not realize the magnitude of the differences in test-retest scores that may be attributed to chance alone. The figures I have cited were very close to the actual figures for the test of Critical Analysis of Reading and Writing used in the Cooperative Study, rounded for the sake of simplicity. We regarded with some horror the finding that the lowest fifth gained 5.33 points while the highest fifth gained only 0.25 points. But when we consider what might be expected to happen on the basis of chance alone, the lowest group should have gained 2.4 points; it actually gained 5.33; therefore it exceeded a chance gain by 2.93 points. The highest group would be expected to lose 2.4 points; it actually gained 0.25 points; therefore the best approximation of the actual gain is 2.65 points.

---

[9] The actual prediction formula is a bit more complicated, but this simplification is valid for the situation described and illustrates the basic principle that is involved.

We can now view the gains of both groups in better perspective. When set against what would have happened by chance, if no learning whatever had taken place, the lowest fifth gained 2.93 points; the highest fifth gained 2.65 points. Such a finding comes closer, although not close enough, to our intuitive judgment of what these two groups probably learned. . . .

My only quarrel with the use of the regression formula is that, if we stop there, we have not gone far enough. We have wiped out the spurious gains and losses that may be attributed to chance, but the usual result is that the weakest and the strongest groups appear to have gained about the same amount. We have good reason to believe that this is not true. What else keeps the initially high students from showing how much more they have learned than the initially low?

UNEQUAL UNITS OF MEASUREMENT

A further explanation of the discrepancy in gains may lie in the way in which objective tests are constructed. In a four-choice test we tend to put in one best answer, one that is likely to deceive all but the elect, one common error that students make, and one absurd answer that I shall refer to as a "booby trap." These four types of answers may not appear in every item, but let us suppose that there are equal numbers of each in the total test. Consider the case of the boy who, in the beginning, can rule out only half the booby traps and has to choose among the remaining answers by chance. The part of his score that may be attributed to knowledge or skill is one-eighth. But merely by staying awake in class he may learn to rule out all the booby traps and to avoid the most common types of errors that students make, for these will be emphasized most heavily in class. Hence in the final test he will be able to rule out two out of every four responses on the average and will have to choose, by chance, only between the right and the nearly right. The part of his score that may be attributed to knowledge is now 50 per cent. He has gone from one-eighth correct to one-half correct—a gain of 38 percentage points—on the basis of minimum ability and minimum effort.

Now consider the student who can do this well in the beginning. He can already rule out booby traps and common errors; the only way he can improve his score is by learning to distinguish best answers from those that are equally plausible and almost as good. These are hard choices. While the poor student can gain 38 points in a test of 100 items by learning to make easy choices, the good student may have a harder time gaining 10 points, for he has much harder problems to cope with.

Unfortunately there is not yet any precise way to translate responses to test items into equal units of growth. Standard scores based on the normal curve are an improvement on percentiles in estimating growth, but they do not solve the problem because they rest on the assumption that equal gains of raw-score points represent equal increments in ability, and the whole purpose of this section has been to demonstrate that this is not the case. It is harder to get from the mean up to plus one standard deviation than it is to get from minus one standard deviation up to the mean. All the data presented from the Cooperative Study attest that this is not a fanciful or theoretical argument but a fact, for many students were able to do the latter but relatively few were able to do the former.

The only ultimate answer to this question that I can now foresee is to get norms for gains as well as for status, starting from any given initial score. Until such norms are provided, the best we can do as teachers is to become as familiar with records on our tests as our students are with records in sports. It may be that a gain from 30 to 60 per cent correct, while creditable, is nothing to get excited about, for almost everyone who starts at 30 per cent correct can make it. But a gain from 80 to 85 per cent correct on a difficult test may be breath-taking, for no one has made it before.

This plan will not settle the metaphysical argument as to whether a gain from stupidity to mediocrity is better than a gain from competence to brilliance, but at least it will not automatically stack the cards in favor of the former.

How Invalid Are Marks Assigned by Teachers?

Robert Scriven Carter[10]

A Fable: John Ellsworth, with an IQ of 113, scores 89 (out of a possible 100) in the algebra test; Betty Dean, with an IQ of 110 also scores 89 on the same test. Yet, when the final grades are assigned, John gets a B while Betty gets an A.

What factors enter into a teacher's interpretation of test results and assignment of grades? The study reported below explores the marks assigned to 235 boys and girls by six teachers—three men and three women. The investigation points up some significant differences in the grades assigned to boys and to girls by men and women teachers, with the girls having an advantage in grades over the boys. Implications for a more refined assessment of achievement are apparent in this article.

With the rapid development of objective testing procedures in the United States, it was to be expected that there would be numerous investigations concerning teachers' marks. Mathematics, traditionally a subject which lends itself to objective measurement, has come in for its share of these investigations. There is a scarcity of investigations of the validity of teachers' marks in beginning algebra. Most studies devoted to the question of teachers' marks have been carried out with respect to elementary school arithmetic or with plane geometry. The latter, usually an elective subject, is not necessarily subject to the same factors in teachers' assignment of marks. Of the research in the elementary school field, a great portion is devoted to a discussion of sundry philosophical aspects of the question or an evaluation of the theoretical implications of marks in general.

THE PROBLEM

The investigation was designed to determine whether or not teachers tend to favor one sex and whether the sex favored tends to be determined by the sex of the teacher. The study sought an answer to the problem: With intelligence held constant, what is the relationship between the sex of the student and the sex of the teacher in the assignment of marks in beginning algebra? . . .

---

[10] from The Journal of Educational Psychology, Vol. 43, Apr. 1952, pp. 218-228. Reprinted by permission of the publisher.

MATERIALS AND SUBJECTS

Results of an investigation of this type are of most value when they can be used for evaluation and interpretation over a wide area, or by a large number of individuals. With this in mind the investigation was undertaken in a city in western Pennsylvania. Two hundred sixty pupils took part in the testing program from which the basic data for this study were obtained. This investigation is based on two hundred thirty-five pupils taking high-school algebra for the first time. In all, nine classes were used, four classes being taught by women and five classes being taught by men. Of the students, one hundred thirty-five were boys and one hundred were girls. Since students are assigned to classes alphabetically, no known selective factors operate which would give a biased sample.

In the school in which the investigation was made, there are six teachers, three men and three women, teaching beginning algebra. The six teachers all hold valid Permanent High School Certificates issued by the Pennsylvania Department of Public Instruction. None of the teachers have had less than fifteen years of experience. The training of the three men and the three women used in this study was almost identical. Whatever effect factors of age, training, and experience may have on assigned marks was minimized.

TABLE I. Differences and Critical Ratios Between Scores Made by Boys and Girls on the Otis Quick Scoring Mental Ability Tests, Beta Test

N	Sex	Mean	SD	SE_M	Diff. $(M_1—M_2)$	SE_D	CR
	Taught by Men						
75	Boys	107.28	11.59	1.36			
58	Girls	108.90	8.84	1.16	1.62	1.79	.91
	Taught by Women						
60	Boys	107.60	8.15	1.05			
42	Girls	107.38	9.14	1.41	.22	1.76	.13
	Boys (Taught by)						
75	Men	107.28	11.59	1.36			
60	Women	107.60	8.15	1.05	—.32	1.72	—.19
	Girls (Taught by)						
58	Men	108.90	8.84	1.16			
42	Women	107.38	9.14	1.41	1.52	1.83	.83
	Totals (Taught by)						
133	Men	107.97	10.64	.92			
102	Women	107.51	8.57	.85	.46	1.25	.37
	Totals						
135	All Boys	107.42	10.34	.89			
100	All Girls	108.25	8.99	.90	—.83	1.26	—.66

During the last week of the first semester, the investigator administered the Otis Quick-Scoring Mental Ability Test, Beta Test, Form A, and the Colvin-Schrammel Algebra Test, Test I, Form A, to all students enrolled in the course in beginning algebra in the public school of a western Pennsylvania city. One week following the end of the first semester the examiner inspected the permanent record cards for the subjects used in the investigation. These cards were inspected in the office of the principal. From the cards, the examiner secured the necessary information concerning the marks assigned by individual teachers to each student as an indication of his level of achievement for the semester.

TABLE II. Mean Differences and Critical Ratios Between Scores Made by Boys and Girls on the Colvin-Schrammel Algebra Achievement Test, Form A

N	Sex	Mean	SD	SE_M	Diff. $(M_1—M_2)$	SE_D	CR
	Taught by Men						
75	Boys	30.84	9.32	1.08			
58	Girls	29.15	7.74	1.02			
					1.69	1.49	1.13
	Taught by Women						
60	Boys	29.51	8.42	1.09			
42	Girls	30.52	7.19	1.11			
					—1.01	1.56	—.65
	Boys (Taught by)						
75	Men	30.84	9.32	1.08			
60	Women	29.51	8.42	1.09			
					1.33	1.54	.86
	Girls (Taught by)						
58	Men	29.15	7.74	1.02			
42	Women	30.52	7.19	1.11			
					—1.37	1.51	—.91
	Totals (Taught by)						
133	Men	30.10	8.70	.75			
102	Women	29.93	6.77	.67			
					.17	1.00	.17
	Totals						
135	All Boys	30.25	8.18	.70			
100	All Girls	29.73	7.54	.75			
					.52	1.02	.51

RESULTS OF THE TESTING PROGRAM

For the purpose of this investigation, the sample is divided into four groups: 1) Boys taught by men teachers. 2) Girls taught by men teachers. 3) Boys taught by women teachers. 4) Girls taught by women teachers.

In the presentation of the data which follow, the results of the testing program are presented so as to reflect these categories.

A) Intelligence test results

In Table I are shown the critical ratios of the differences of the various groups with respect to mental ability as measured by the Otis Test. The differences for the various groups (range 1.62 to —.83), when treated statistically, give critical ratios that range from .91 to .13. The largest difference shown, that between boys and girls taught by men (1.62), gives a critical ratio of only .91. Differences as large as 1.62 might be expected by chance one out of five times. It is important to realize, therefore, that with respect to intelligence, as measured by the Otis Quick-Scoring Mental Ability Test, there are no statistically significant differences between the groups in the present investigation.

B) Algebra achievement test scores

The critical ratios of the differences between the means of the various groups based on the results of the Colvin-Schrammel Algebra Test are found in Table II. Differences range from 1.69 (the difference in mean scores for boys and girls taught by men) to .17 (the difference between groups taught by men and by women). It is to be noted that the average boy makes a better score on this test than does the average girl. The mean score for boys taught by men is higher than the mean score for girls taught by men. On the other hand the average score for girls taught by women exceeds the average score for the boys. The student whose sex is the same as that of the teacher makes higher mean scores than do the students whose sex is opposite to that of the teacher.

With respect to average achievement in algebra, as measured by the Colvin-Schrammel Test, the differences among the various groups in this investigation are not significant. The largest critical ratio, the critical ratio between the mean score for boys and girls taught by men, 1.13, indicates that differences as large as 1.69 could be expected by chance thirteen times out of one hundred. It must be concluded, then, that the small differences among the various groups could happen by chance, and, as far as ability in algebra is concerned, boys and girls, whether the teacher is a man or a woman, show equal algebra achievement within the limits of the present data.

TABLE III. Differences and Critical Ratios Between Marks Assigned to Boys and to Girls by Teachers of Beginning Algebra

N	Sex	Mean	SD	SE_M	Diff. $(M_1—M_2)$	SE_D	CR
	Taught by Men						
75	Boys	76.61	8.19	.95			
58	Girls	79.50	6.60	.87	—2.89	1.29	—2.24
	Taught by Women						
60	Boys	82.63	9.08	1.17			
42	Girls	86.71	8.67	1.34	—4.08	1.78	—2.29
	Boys (Taught by)						
75	Men	76.61	8.19	.95			
60	Women	82.63	9.08	1.16	—6.02	1.50	—4.01
	Girls (Taught by)						
58	Men	79.50	6.60	.87			
42	Women	86.71	8.67	1.34	—7.21	1.60	—4.51
	Totals (Taught by)						
133	Men	77.87	7.67	.67			
102	Women	84.31	9.15	.91	—6.44	1.13	—5.70
	Totals						
135	All Boys	79.29	9.10	.78			
100	All Girls	82.53	8.34	.83	—3.24	1.14	—2.84

C) Marks assigned by teachers

The critical ratios of the differences between the mean grades assigned to boys and girls by teachers of beginning algebra are found in Table III. Although it has been shown that no significant differences exist among the various groups in either intelligence or algebra achievement, significant differences are found in the marks assigned by teachers of beginning algebra.

The average mark assigned by men is 6.44 points lower than the average mark assigned by women. This difference is nearly six times the standard error of the difference. This cannot be attributed to chance factors. In all instances the girls receive higher average marks than do the boys. In the present investigation, the difference in marks assigned by men and women teachers indicates that men assign lower marks to boys and to girls.

More specifically, the data show that boys are given lower average marks than are girls, regardless of the sex of the teacher assigning the marks; but, marks assigned by men are lower than those assigned by women. Consequently, boys get the lowest average marks when those marks are assigned by men. Girls, on the other hand, get the highest marks when those marks are assigned by women teachers. . . .

SUMMARY

With respect to intelligence, no significant differences existed among any of the groups. In the results of the algebra achievement scores, small and, on the whole, insignificant differences favored the group whose sex was the same as the sex of the teacher. The differences in achievement were not significant at the one per cent level of confidence, indicating that the small differences which were present could have been accounted for by chance.

When the teachers' marks in beginning algebra were investigated, significant differences were observed. Girls made significantly higher marks than did the boys. Women teachers tended to give higher marks than did the men teachers. Specifically, when marks were assigned, boys were given lower marks than were the girls, regardless of whether the teacher was a man or a woman; but, marks assigned by men teachers were lower than marks assigned by women teachers.

CONCLUSIONS

1) It was evident from the data, although no significant differences could be found in intelligence or in algebra achievement, that significant differences existed in the marks assigned by teachers, differences clearly not attributable to chance. The differences, generally, gave the advantage to the girls. It was made clear that the girls were no smarter, did not know any more algebra, but they did receive higher marks.

2) There were definite indications that intelligence was a factor in the assignment of marks. The correlation coefficient between teachers' marks and algebra achievement gave some indication that, theoretically, at least, they represent measurement of the same variable.

3) When intelligence was partialled out, and thus held constant, the relationship between teachers' marks and achievement declined. This indicated that the teachers' marks not only reflected achievement but also intelligence. Since the relationship was far from perfect, some other factors entered into the assignment of marks by teachers of beginning algebra.

4) It must be concluded that teachers' marks represent more than chance estimates of the pupils' achievement. The findings in the present investigation indicate that teachers' marks represent achievement, but, and this is important, they give evidence of the effects of intelligence upon the teacher.

5) It must also be concluded in the light of the data in the present investigation that the sex of the teacher was not so important in the investigation of marks as was the sex of the student. Regardless of whether the teacher was a man or a woman, boys were penalized in the assignment of marks. The penalty was not so great, at least so far as these data were concerned, if the teacher was a man. There was higher correlation between achievement and teachers' marks when the teacher was a man.

6) The data indicated a definite necessity for the refining of marks, if these marks are to reflect true achievement. The data used in this investigation proved that there is a slight overrating of girls generally and an underrating of boys, especially by women teachers. . . .

The Effect of Promotion Policy on Academic Achievement

G. T. Kowitz and C. M. Armstrong[11]

In an effort to meet the demand for a rigorous educational program, many school systems are tempted to adopt a policy of "achieve or fail," in the hope that fear of failure will spur students on to greater efforts toward achievement. Do such administrative policies attain the desired results? What effects do these pressures have on children?

The study reported below describes an investigation of the promotion policies of two school systems—one with a low rate of retention and the other with a high rate of retention—and presents a comparison of the achievement patterns of students in both schools.

During the past several years there has been a growing demand for a tough program of education in the public schools, particularly in the elementary grades where a concern for the whole child is often stressed. But few educators have bothered to distinguish between a program that is academically tough and a program that is personally tough. Many prefer to rely on the archaic maxim that to be good, medicine must taste bad.

Actually, there is reason to believe that an academically tough program, properly administered, far from being unpleasant for the pupil, would be quite satisfying to him. There is pleasure in true accomplishment even though it calls for strenuous effort and may be fatiguing.

All too often the educational program is judged tough or soft by one test only: the promotion policy of the school. Proponents of a tough program often suggest that the school with the higher rate of pupil failure is the better one.

Many studies of the effect of school promotion policy have been concerned primarily with the pupil's personal-social development, not his academic achievement. The work of Sandin and of Morrison and Perry indicate that retention of pupils because of their inability to achieve academically can have undesirable effects on their personal-social development.

Furthermore, studies of academic achievement and promotion have been concerned with results for a group of pupils or for all pupils in a school system. Researchers have tended to ignore the effect of promotion policy on the achievement of individual pupils.

Evidence is lacking that retention increases the pupil's academic proficiency. Could the lack of evidence be in part a result of the research approach used?

Promotion is a matter of school policy, outlined by the administration. Since policy is district-wide, the proper unit of analysis is the district, not the pupil within the district.

To evaluate policy, the academic achievement of pupils in school districts that use nonpromotion as a device to insure achievement should be compared with the achievement of

---

[11] from The Elementary School Journal, Vol. 61, No. 8, May 1961, pp. 435-443. Copyright 1961 by The University of Chicago. Reprinted by permission of The University of Chicago Press.

pupils in districts that do not use this device. In other words, we must allow for two effects—the effect of the threat of non-promotion on pupils who are promoted and the effect of the fact of non-promotion on pupils who are retained.

Furthermore, since pupils do not respond uniformly to threats and coercion, the effect of a policy of promotion based solely on achievement should be sought in the achievement records of individual pupils, not in average scores for school districts. These records must be extended over enough years so that the ultimate effect of the policy can be discerned. A sound administrative policy should insure that each pupil will achieve within his range of ability. The pupil should not be held to some artificial standard set for all pupils in the district.

TABLE 1. Comparative Statistics of Two School Systems

	School A	School B
Enrolment in Grade 10	169	118
Number of students in Grade 10 who had failed before Grade 7	10	31
Per cent of students in Grade 10 who had failed before Grade 7	5.92	26.27
Socioeconomic index	3.80	3.33
Composite achievement (mean)	14.44	15.02
Lorge-Thorndike intelligence quotient (mean)	108	111

While this analysis of the problem seems reasonable, it presents several methodological difficulties. Most obvious is the recommendation for a longitudinal approach to the analysis of data on achievement. Adequate longitudinal data are difficult and expensive to collect; and, in spite of our concern for patterns in child development, only a limited methodology has been developed for handling longitudinal data.

Too often researchers turn to individual case histories, which cannot provide general rules. Or investigators simply tack together a series of latitudinal studies, which lack the continuity of individual growth and thus do not have the power of the longitudinal approach.

Another problem arises from current theories of school administration. In an attempt to meet the changing demands of the local community and the greater society, many schools are no longer holding firmly to a determined course of action. Instead they are resorting to a policy of adaptability. In many cases, this approach results in changes in policy before the effects of a policy are fully understood. The need for continuing policy and the requirements of longitudinal research add tremendously to the obstacles to definitive inquiry.

In the records of the Research Office of the New York State Education Department, it was possible to locate two school districts that had contrasting promotion policies and a reasonable amount of recorded data. As can be seen from Table 1, these two districts seem to be fairly comparable. Several important questions may, therefore, be explored:

> Can longitudinal records be treated in such a way that their uniqueness can contribute to the evaluation of administrative policy?
>
> Is a child's pattern of academic growth immutable, or can it be shown to respond to administrative policy?
>
> In the schools studied, can it be demonstrated that the promotion policy had the effect the administration intended?
>
> Did the policy increase the achievement of the student who did not meet the established standards?
>
> Did the academic growth of the individual pupil and the level of achievement for the district respond as a system controlled and regulated by administrative policy?

If it can be shown that there is an orderly response to policy in the achievement of the student body—a response that is not masked by differences in individual responses—it will be accepted that a longitudinal analysis of achievement records can be used to describe the influence of administrative policy.

It is commonly believed that more boys than girls fail in school. Sometimes the superiority imputed to girls has been ascribed to differences in developmental patterns. If girls are superior for developmental reasons, retention as a policy cannot be justified, since it would be impossible for the less developed boy to meet the standards. The difference in the failure rate of boys and girls is sometimes attributed to the prejudice of teachers who favor the more conforming girls. A policy of failure based on prejudice against males cannot be justified.

A sex-linked difference did not appear in School B, which had a failure rate of 26.27 per cent. Among the girls, the rate was 25.0 per cent, while among the boys it was 27.6 per cent. Since the difference between these rates was not significant, it would seem that in this school promotion and retention of pupils was probably based on achievement rather than on sex bias or inadequate development.

In School B a latitudinal study was made of the difference in achievement between groups of pupils who had been retained before Grade 7 and a proportional random sample of pupils who had not been retained. When the data for achievement in reading and arithmetic were treated by analysis of variance, significant differences were found between groups that had failed and groups that had not.

In reading and arithmetic, the achievement of the group that had not been retained was well above the achievement of the group that had been retained. The fact that those who had not made normal progress continued to form a separate group that showed less achievement, even after retention, suggests that their extra year had not eliminated the difference in their achievement. This finding is especially notable since as a result of their retention they were being compared with a group that was a year younger and less experienced.

Thus, even when pupil retention was used as an administrative device to encourage achievement and to limit the range of pupil achievement that the teacher must face in the classroom, pupils who were retained formed a distinct group at a lower level of achievement.

A group treatment of longitudinal data was achieved by using the Allometric Chart as a standard or model.

On this chart, which combines the principles of Huxley's law of relative growth and Olson's concept of growth age, test scores form a diagonal pattern across the graph.

To help interpret the pattern, diagonal lines, based on mental age, are used to form "channels of development." The boundaries of each channel are determined by lines that show the relationship between mental age and chronological age. Thus it is possible to think of each channel as being ten IQ points wide. Patterns of growth can be said to be described by the number of IQ points encompassed. Research has shown that most patterns of development can be encompassed by three channels, or thirty IQ points. This span corresponds closely to the standard error of the classical intelligence test.

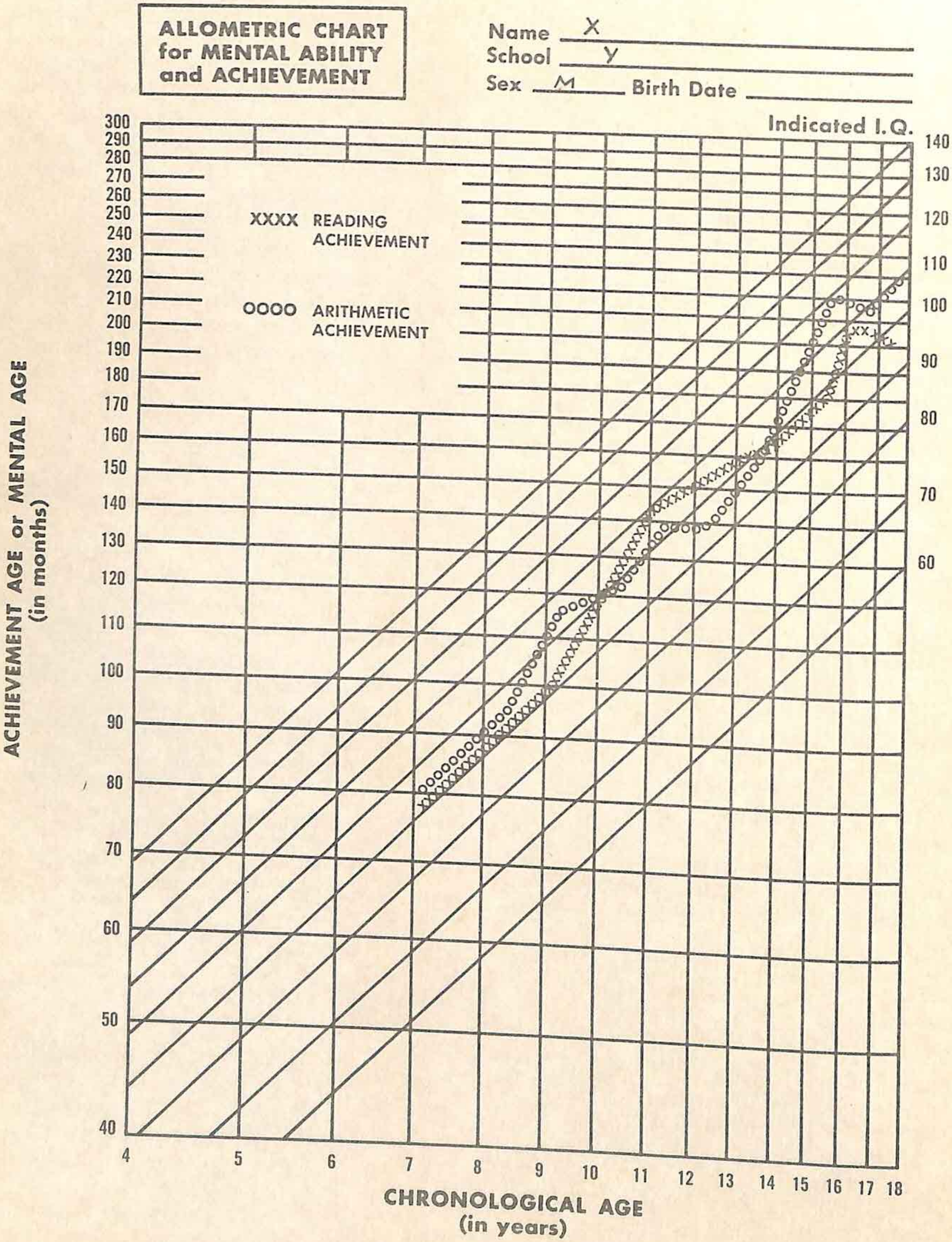
Theoretically, the pattern of achievement lies parallel to the channel limits. However, some children show patterns of achievement that move across channels rather than along them. The movement provides a means of classifying children by their pattern of achievement. The achievement of most children, like the boy whose record is presented in Figure 1, shows a pattern of regular progress up the channels. Patterns that cross channel limits can be further classified by the direction of movement—a gain, or an upward movement, and a loss, or a downward movement—and by the number of channels that the pattern crosses.

Besides presenting a picture of the academic growth of individual pupils, the Allometric Chart provides a basis for the statistical treatment of longitudinal data. While the school administrator must always be aware of individual pupils and their particular problems, his policy decisions must be based on significant characteristics of the group. Charts of individual development can be grouped according to the pattern of achievement shown by the child. Five such patterns, or classes, were posited:

Class 1.—Charts that showed a gain of two channels
Class 2.—Charts that showed a gain of one channel
Class 3.—Charts that showed no change of channel
Class 4.—Charts that showed a loss of one channel
Class 5.—Charts that showed a loss of two channels

The response to policy could be observed by noting the proportion, or the per cent, of pupils who evidenced a certain class of development. The effect of the policy could be assessed by comparing the per cent of pupils in each class of development under the contrasting policies of promotion in the two schools.

For example, by comparing the per cent of pupils in each school who showed an increase of channel in their pattern of achievement, the accelerating effect of promotion policy could be evaluated. The significance of the observed dif-



ALLOMETRIC CHART for MENTAL ABILITY and ACHIEVEMENT

Name X
School Y
Sex M Birth Date

Fig. 1 Achievement record of a boy showing a well-regulated pattern.

ferences between the per cent of such pupils in the two districts could be determined from calculations of the standard error of the per cent or proportion.

A comparison of the classes of development in the schools indicated that there was indeed a systematic response. No significant differences in pattern were found between boys and girls. The tabulations indicated that Class 5, the group that showed a loss of two channels, was superfluous. Records that would fall into this classification were extremely rare. The comparison of the per cent of pupils in each school district who showed a certain pattern of development suggested that to some extent the pattern was a response to administrative policy. It must be recognized that the differences found might be more correctly ascribed to the effect of the total administrative climate of the schools, of which the rate of pupil retention was but one aspect. However, it is known that in the school with the high rate of retention, the purpose of the policy was to "maintain standards of achievement."

In comparing the per cent of pupils in each channel class, the difference between schools was evaluated in terms of the index of significance. The index is defined as the difference between the per cents measured in standard errors of the difference of the per cents. Substantially, this index is analogous to the *t* test for significance between means. The results are presented in Tables 2 and 3.

From Table 2 it can be seen that School B, which had a high rate of failure, had a significantly higher proportion of pupils who

TABLE 2. Comparison of Patterns of Reading Achievement in Two School Systems

	School A: Low Rate of Retention		School B: High Rate of Retention		
Channel Class	Number of Pupils	Per Cent	Number of Pupils	Per Cent	Index of Significance
Gain two channels	4	2	30	25	2.982*
Gain one channel	45	27	37	31	0.724
No change	78	46	36	31	2.476†
Lose one channel	36	21	15	13	1.733
Lose two channels	6	4	...	...	....
Total	169	100	118	100	

* Indicates a difference that is significant beyond the 1 per cent level of confidence.

† Indicates a difference that is significant beyond the 5 per cent level of confidence.

TABLE 3. Comparison of Patterns of Arithmetic Achievement in Two School Systems

	School A: Low Rate of Retention		School B: High Rate of Retention		
Channel Class	Number of Pupils	Per Cent	Number of Pupils	Per Cent	Index of Significance
Gain two channels	9	5	25	21	3.40*
Gain one channel	68	40	49	42	0.25
No change	82	49	30	25	3.62*
Lose one channel	9	5	14	12	1.55
Lose two channels	1	1	...	...	...
Total	169	100	118	100	

* Indicates a difference that is significant beyond the 1 per cent level of confidence.

showed a gain of two channels in reading. Also, there was a tendency for this school to have a smaller proportion of pupils who did not change channels. Apparently, the administrative attitude caused an increase in channel among pupils who otherwise might have maintained their course. This achievement beyond expectation suggests that these pupils may have been pressured toward overachievement.

In arithmetic achievement, as Table 3 shows, the changes were similar to those found in reading achievement. When retention was used as a penalty for low achievement, a larger proportion of pupils showed a gain, and a smaller proportion showed no change. Again, the suggestion of pressure toward achievement must be recognized in this shift.

These comparisons present interesting material for elementary-school administrators. Apparently a policy of high retention can result in a greater proportion of pupils who show an increasing rate of achievement. If the school were concerned only with achievement as measured by objective tests, this increase would indeed be laudable. However, the school has a much broader responsibility, and the warnings of mental hygienists on the effect that forced overachievement has on the personality development of the child must be recognized.

That significant gains occurred is of interest. There remains the problem of relating these gains to policy on pupil promotion. A further analysis was made of the patterns in the school that had the high rate of failure. The group that had been retained was compared with the group that had not. The results for the reading patterns and the arithmetic patterns are presented in Tables 4 and 5, respectively.

TABLE 4. Comparison of Patterns of Reading Achievement of Pupils Who Were Retained and the Total Grade Population in School B

	Pupils Retained		Grade Population		
Channel Class	Number	Per Cent	Number	Per Cent	Index of Significance
Gain two channels	2	6	30	25	2.97*
Gain one channel	5	16	37	31	1.84
No change	11	36	36	31	0.53
Lose one channel	13	42	15	13	3.05*
Lose two channels	...	...	...	...	...
Total	31	100	118	100	

* Indicates a difference that is significant beyond the 1 per cent level of confidence.

TABLE 5. Comparison of Patterns of Arithmetic Achievement of Pupils Who Were Retained and the Total Grade Population in School B

	Pupils Retained		Grade Population		
Channel Class	Number	Per Cent	Number	Per Cent	Index of Significance
Gain two channels	3	10	18	15	0.83
Gain one channel	4	13	45	38	3.19*
No change	17	55	48	41	1.36
Lose one channel	6	19	7	6	1.80
Lose two channels	1	3	...	...	1.02
Total	31	100	118	100	

* Indicates a difference that is significant beyond the 1 per cent level of confidence.

While the analysis of reading patterns (Table 4) shows that the pressure toward achievement caused a true gain in channel for the group as a whole, it also identified the failure group with a tendency to lose channel. It can be concluded that, while retention segregated the failure group, it did little to help the pupil whose pattern of reading achievement showed a loss of channel.

The analysis of arithmetic patterns (Table 5) roughly paralleled that of reading patterns. While the group of pupils who were retained showed a significantly smaller proportion gaining channel, there was no change in the proportion losing channel.

The school administrator is often faced with the problem of evaluating policy. There is a great danger in basing judgments on tradition, on oversimplified rules of thumb, or on fragmentary evidence. An attempt was made to develop a longitudinal evaluation of promotion policy. Academic achievement apparently responds to school policy. A policy of "achieve or fail" seems to cause more change among pupils who are being promoted than among pupils who are being retained. While there was a trend toward increased achievement in the school with an "achieve or fail" policy, the increase was limited largely to pupils who were in no real danger of being retained. Since they were in no danger of academic failure, the role of the threat of non-promotion in the mental health of the child must be considered.

The analysis of patterns of achievement-test scores on a longitudinal basis appears to be a productive approach to evaluation of administrative policy on promotion. The approach may be useful in evaluating other policies as well.

INTERPRETING THE SELECTIONS

Dyer article

1. How does Dyer define "academic achievement"? Do you agree with his definition?

2. Dyer says, "We should think of achievement as composed of transitive verbs with direct objects." Explain what he means by this statement.

3. Describe the "situational test" and what it is designed to measure.

4. What daring suggestion does Dyer offer the classroom teacher?

5. What are the several factors that prevent a more reasonable approach to assessment?

6. In your course in Educational Psychology, what are the goals and what areas would have to be measured to ascertain achievement?

Diederich article

1. Obtain test and retest scores on achievement tests from a nearby elementary school or high school and check them to see if they bear out Diederich's findings.

2. How can you reconcile Diederich's statements with the well-known fact that individual differences within a class increase as the children progress through the grades?

3. How would the points made in this article affect your construction and evaluation of a history test for eighth-graders?

4. What would happen if you measured growth (that is, amount gained) rather than absolute final accomplishment?

5. Do you think it is as easy to raise a score on a standard test from 50 per cent to 60 per cent as from 80 per cent to 90 per cent? Explain.

Carter article

1. What conclusions were drawn in this study?

2. Explain "critical ratio" and "significant difference."

3. What precautions were taken to assure valid conclusions? Does the author tell you anything about the differences in teachers' marking procedures?

4. Summarize the information contained in Table III. Do you think there may be other legitimate sex related or intelligence related behavior that makes the grading legitimate?

5. What implications does this article have for the classroom teacher?

6. Do you think that as "intelligence" influences academic grades, "muscle" influences grades in physical education? What is being graded—pupil capacity or learning?

Kowitz and Armstrong article

1. Do you think grade level has any bearing in the problem of retention?

2. Explain the difference between "longitudinal" and "latitudinal" research?

3. What common point was made by the authors of this article and Carter?

4. If you did not have a graded school system, what would happen to those of low achievement who then did not have to "fail" a grade?

5. Skinner says that the competitive group procedure we now use dooms many pupils to relative failure, since they are behind the high achieving ones. What might be the psychological effect of this?

S.C.E.R.T., West Bengal
Library
Calcutta
25/3, B. C. Road

BUREAU OF EDNL. & PSYL. RESEARCH
LIBRARY

370·15
MOR